

PROPOSED AMENDMENTS TO THE CENTRAL DISTRICT URBAN RENEWAL PLAN

Draft Environmental Impact Report
SCH No. 2010102024

Prepared for
The City of Oakland

March 17, 2011



CITY OF OAKLAND



250 FRANK H. OGAWA PLAZA, OAKLAND, CALIFORNIA 94612 – 2033

Community and Economic Development Agency
Planning & Zoning Services Division

(510) 238-3941
FAX (510) 238-6538
TDD (510) 839-6451

PROPOSED AMENDMENTS TO THE CENTRAL DISTRICT URBAN RENEWAL PLAN NOTICE OF RELEASE AND AVAILABILITY OF DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) AND NOTICE OF PUBLIC HEARINGS ON DEIR

TO: All Interested Parties

SUBJECT: Notice of Release/Availability of Draft Environmental Impact Report for the Proposed Amendments to the Central District Urban Renewal Plan, and Notice of Public Hearing on the same.

REVIEW PERIOD: March 18, 2011 through May 2, 2011

CASE NO.: ER 10-003 (CEQA State Clearing House Number 2010102024)

PROJECT SPONSOR: City of Oakland Redevelopment Agency

PROJECT LOCATION: The Project Area is generally bounded by the Embarcadero to the south, Fallon Street and Lake Merritt to the east, 28th Street and Bay Place to the north, and Interstate 980 to the west. The Project Area encompasses Downtown Oakland and Jack London Square, and the Chinatown and Victorian Row/Old Oakland neighborhoods.

PROJECT DESCRIPTION: The Proposed Amendments consist of two amendments to the Redevelopment Plan, the 17th Amendment and the 18th Amendment to the Plan. The proposed 17th Amendment would amend the Plan in three ways. First, it would extend the duration of the Redevelopment Plan from 2012 to 2022 and extend the time period that the Redevelopment Agency can receive tax increment funds from 2022 to 2032, as allowed by Senate Bill 211 (codified at Health and Safety Code Section 33333.10 et seq.). Second, it would increase the cap on the receipt of tax increment revenue to account for the proposed time extensions, as the Redevelopment Agency is anticipated to exceed its existing cap if the time extension is adopted. Third, it would renew the Redevelopment Agency's authority to use eminent domain in the Project Area.

Under the California Community Redevelopment Law (CRL), such amendments require findings, among other things, that significant blight remains in the Project Area and that blight cannot be eliminated without the proposed amendments described above. The Agency is also preparing an analysis of the costs of projects and programs required to eradicate this blight and the relationship between this cost and the increase in the cap.

The proposed 18th Amendment would further extend the Plan effectiveness time limit from 2022 to 2023 and extend the time period that the Redevelopment Agency can receive tax increment funds from 2032 to 2033, as allowed by Health and Safety Code Section 33331.5. Under that statute, when an agency has made its required payments to the Supplemental Educational Revenue Augmentation Fund (SERAF), it may amend its plan to extend its plan limits by one year without having to comply with other provisions of redevelopment law governing plan amendments. No blight findings or other analysis is required by the CRL for a SERAF time extension.

Implementation of actions defined in the Redevelopment Plan and amendments could result in the rehabilitation, reconstruction, construction, or alteration of buildings, housing, public infrastructure, and other physical changes to the environment. Because redevelopment projects and programs to be facilitated by the proposed amendments would generally remain similar to those currently being implemented, this EIR is primarily focused on the effects of changes in the environment resulting from implementation of 10 additional years of redevelopment activities and tax increment funding. For example, adoption and implementation of the proposed amendments would provide a series of multiple, coordinated actions (e.g., tools, programs, and funding) to eliminate blight and facilitate revitalization and growth in the Project Area. The redevelopment activities also would support the construction of additional low- and moderate- income housing.

ENVIRONMENTAL REVIEW: A Notice of Preparation of an EIR was issued by the Redevelopment Agency on September 15, 2010. A Draft Environmental Impact Report (DEIR) has now been prepared for the project under the requirements of the California Environmental Quality Act (CEQA), pursuant to Public Resources Code Section 21000 *et seq.* The DEIR analyzes potentially significant environmental impacts in the following environmental categories: Aesthetics, Shadow and Wind; Air Quality; Biological Resources; Cultural Resources; Geology, Soils and Geohazards; Greenhouse Gases and Climate Change; Hazardous Materials; Hydrology and Water Quality; Land Use, Plans and Policies; Noise; Population, Employment and Housing; Public Services and Recreation Facilities; Transportation and Circulation; Utilities and Service Systems. The Draft EIR identifies significant unavoidable environmental impacts related to: Air Quality, Cultural Resources, Noise and Transportation and Circulation.

Copies of the DEIR are available for review or distribution to interested parties at no charge at the Community and Economic Development Agency, Planning Division, 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, CA 94612, Monday through Friday, 8:30 a.m. to 5:00 p.m. Additional copies are available for review at the Oakland Public Library, Social Science and Documents, 125 14th Street, Oakland, CA 94612. The Draft EIR may also be reviewed on the City's website at:

<http://www2.oaklandnet.com/Government/o/CEDA/o/Redevelopment/o/CentralDistrict/index.htm>

<p>CITY PLANNING COMMISSION SCOPING MEETING April 6, 2011, 6:00 p.m. Oakland City Hall Hearing Room 1 One Frank H. Ogawa Plaza Oakland, CA 94612</p>	<p>LANDMARKS PRESERVATION ADVISORY BOARD SCOPING MEETING April 11, 2011, 6:00 p.m. Oakland City Hall Hearing Room 1 One Frank H. Ogawa Plaza Oakland, CA 94612</p>
---	---

The Redevelopment Agency is hereby releasing this Draft EIR, finding it to be accurate and complete and ready for public review. Members of the public are welcome to attend these hearings and provide comments. Comments on the DEIR should focus on whether the DEIR is sufficient in discussing possible impacts to the physical environment, ways in which potential adverse effects may be avoided or minimized through mitigation measures, and alternatives to the Proposed Amendments in light of the EIR's purpose to provide useful and accurate information about such factors. Comments may be made at the public hearings described above or in writing. Please address all written comments to Ulla-Britt Jonsson, Planner II, City of Oakland Strategic Planning Division, 250 Frank H. Ogawa Plaza, Suite 3315; Oakland, California 94612; (510) 238-3322 (phone); (510) 238-4730 (fax); or e-mailed to ujonsson@oaklandnet.com. **Comments must be received no later than 4:00 p.m. on May 2, 2011.**

After all comments have been received, a Final EIR will be prepared and the Planning Commission will consider certification of the EIR and rendering a decision on the project at a public hearing, date yet to be determined. All comments received will be considered by the City prior to finalizing the EIR and taking any further action pertaining to the Proposed Amendments. If you challenge the environmental document or other actions pertaining to the Proposed Amendments in court, you may be limited to raising only those

issues raised at the public hearings described above or in written correspondence received by the Community and Economic Development Agency on or prior to May 2, 2011. For further information please contact Ulla-Britt Jonsson at (510) 238-3322 or via e-mail to ujonsson@oaklandnet.com.



Eric Angstadt
Deputy Director, Community & Economic Development Agency
And Oakland City Planning Director

File Number ER 10-0003
Date of Notice: March 17, 2011

PROPOSED AMENDMENTS TO THE CENTRAL DISTRICT URBAN RENEWAL PLAN

Draft Environmental Impact Report
SCH No. 2010102024

Prepared for
The City of Oakland

March 17, 2011



350 Frank H. Ogawa Plaza
Suite 300
Oakland, CA 94612
510.839.5066
www.esassoc.com

Los Angeles

Olympia

Palm Springs

Petaluma

Portland

Sacramento

San Diego

San Francisco

Seattle

Tampa

Woodland Hills

210505.01

TABLE OF CONTENTS

Proposed Amendments to the Central District Urban Renewal Plan Draft Environmental Impact Report

	<u>Page</u>
List of Acronyms and Abbreviations	v
1. Introduction	1-1
1.1 Project Overview	1-1
1.2 Environmental Review	1-2
1.3 CEQA Review and Approval	1-4
1.4 Redevelopment Law Requirements for Adoption of the Proposed Amendments	1-4
1.5 Organization of the Draft EIR	1-5
2. Summary	2-1
2.1 Project Overview	2-1
2.2 Environmental Impacts, Standard Conditions of Approval and Mitigation Measures	2-2
2.3 Alternatives	2-3
2.4 Areas of Controversy and Scoping Comments	2-4
3. Project Description	3-1
3.1 Background	3-1
3.2 Project Description	3-2
3.3 Project Area Location and Site Characteristics	3-8
3.4 Project Goals and Objectives	3-11
3.5 Required Public Agency Approvals	3-11
3.6 Other Agencies	3-12
4. Environmental Setting, Impacts, Standard Conditions of Approval and Mitigation Measures	4-1
4.01 Environmental Topics	4-1
4.02 Format of Environmental Topic Sections, Impact Statements, and Mitigation Measures	4-2
4.03 Thresholds/Criteria of Significance	4-2
4.04 Standard Conditions of Approval and Uniformly Applied Development Standards	4-3
4.05 Impact Classifications	4-4
4.06 Environmental Baseline	4-5
4.07 Cumulative Analysis	4-5

	<u>Page</u>
4. Environmental Setting, Impacts, Standard Conditions of Approval and Mitigation Measures (continued)	
4.1 Aesthetics, Shadow and Wind	4.1-1
4.2 Air Quality	4.2-1
4.3 Biological Resources	4.3-1
4.4 Cultural Resources	4.4-1
4.5 Geology, Soils and Geohazards	4.5-1
4.6 Greenhouse Gases and Climate Change	4.6-1
4.7 Hazardous Materials	4.7-1
4.8 Hydrology and Water Quality	4.8-1
4.9 Land Use, Plans and Policies	4.9-1
4.10 Noise	4.10-1
4.11 Population, Housing, and Employment	4.11-1
4.12 Public Services and Recreation Facilities	4.12-1
4.13 Transportation and Circulation	4.13-1
4.14 Utilities and Service Systems	4.14-1
5. Alternatives	5-1
5.1 Criteria for Selecting Alternatives	5-1
5.2 Alternatives Selected for Consideration	5-1
5.3 Significant Impacts	5-2
5.4 Alternatives Analysis	5-4
5.5 Environmentally Superior Alternative	5-24
6. Impact Overview and Growth Inducement	6-1
6.1 Significant, Unavoidable and Cumulative Environmental Impacts	6-1
6.2 Growth-Inducing Impacts	6-2
6.3 Significant Irreversible Environmental Effects	6-6
6.4 Effects Found Not to be Significant	6-7
7. Report Preparers	7-1
Appendices (<i>provided on CD</i>)	
A. Notice of Preparation and Public Scoping	A-1
B. Major Projects List	B-1
C. Air Quality, Greenhouse Gases, and Noise Supplemental Information	C-1
D. Biological Resources Supplemental Information	D-1
E. Transportation and Circulation Supplemental Information	E-1
F. Alternatives Tables	F-1
List of Figures	
3-1 Project Location Map	3-9
3-2 Project Area	3-10
4.2-1 Sources of Toxic Air Contaminants	4.2-22
4.4-1 Local Register and Potential Designated Historic Properties	4.4-24
4.8-1 Dam Inundation Zones and Flood Zones	4.8-3
4.8-2 Tsunami Inundation Area	4.8-4
4.9-1 General Plan Land Use Classifications	4.9-2
4.10-1 Effects of Noise on People	4.10-7

	<u>Page</u>
List of Figures (continued)	
4.13-1 Project Location Map and Study Area	4.13-2
4.13-2 Existing Transit Services	4.13-6
4.13-3 Existing and Proposed Bicycle Facilities	4.13-12

List of Tables

2-1	Summary of Impacts, Standard Conditions of Approval, Mitigation Measures and Residual Impacts	2-6
3-1	Potential Projects and Programs Facilitated by the Proposed Amendments to the Redevelopment Plan	3-3
4.2-1	Air Quality Data Summary (2005-2009) for the Project Area	4.2-3
4.2-2	State and National Criteria Air Pollutant Standards, Effects, and Sources	4.2-7
4.2-3	Transportation Control Measures in the 2010 Clean Air Plan	4.2-20
4.3-1	Special-Status Species Considered	4.3-7
4.4-1	Archaeological Resources in the Project Area	4.4-22
4.4-2	Selected Historical Resources in the Project Area: City Landmarks and Other Major Designations	4.4-25
4.5-1	Modified Mercalli Intensity Scale	4.5-6
4.5-2	Active Faults in the Region	4.5-7
4.6-1	Oakland Community-wide GHG Emissions Summary – 2005	4.6-4
4.6-2	List of Recommended Actions by Sector	4.6-12
4.6-3	GHG Emissions Inventory from Development Facilitated by the Proposed Amendments – “Business as Usual” – and Adjusted	4.6-22
4.7-1	Non LUFT/SLIC Regulatory Sites Listed Within the Project Area	4.7-2
4.7-2	Federal Laws and Regulations Related to Hazardous Materials Management	4.7-5
4.9-1	Project Area Net Land Uses	4.9-5
4.10-1	Typical Noise Levels	4.10-2
4.10-2	Monitored Noise Environments within the CBD	4.10-5
4.10-3	City of Oakland Operational Noise Standards at Receiving Property Line	4.10-9
4.10-4	City of Oakland Construction Noise Standards at Receiving Property Line	4.10-9
4.10-5	Typical Construction Noise Levels	4.10-16
4.10-6	Typical Maximum Noise Levels from Construction Equipment	4.10-16
4.10-7	Peak-hour Traffic Noise Levels in the Project Vicinity Existing (2007) Versus Near Term Plus Project (2015)	4.10-23
4.10-8	Peak-Hour Traffic Noise Levels in the Project Vicinity Existing (2007) Versus Cumulative Plus Project (2030)	4.10-25
4.11-1	Employment, Households, and Population for Project Area, Greater Downtown, and the City of Oakland: 2000, 2005, 2010, and 2035	4.11-2
4.11-2	Trends in Employment, Households, and Population for Oakland, the East Bay, and Bay Area Region: 1990, 2000, 2005, and 2035	4.11-5
4.11-3	Changes in Housing Stock in Oakland 1990-2010	4.11-6
4.11-4	Housing Development and Household Growth in Oakland	4.11-7
4.11-5	Housing Development in Oakland and Greater Downtown: Units Built, in the Pipeline, and on Opportunity Sites	4.11-8
4.11-6	Trends in Jobs and Employed Residents: 1990-2035	4.11-10
4.11-7	Commercial Space and Employment Growth Potentials for Project Area Development during Extension Period with Proposed Amendments	4.11-13

	<u>Page</u>
List of Tables (continued)	
4.11-8 Housing Development and Population Growth Potentials for Project Area during Extension Period with Proposed Amendments	4.11-14
4.11-9 Potential Net Growth of Project Area Employment and Households during Extension Period, with Proposed Amendments	4.11-17
4.11-10 Possible Commercial and Industrial Uses to be Removed for New Development Facilitated by the Proposed Amendments	4.11-22
4.11-11 Population and Employment Growth Facilitated by the Proposed Amendments Compared to Future Projections for Oakland	4.11-25
4.13-1 AC Transit Service Summary	4.13-7
4.13-2 Number of Passengers Using BART Station (Weekday)	4.13-8
4.13-3 BART Load Factors (12th Street BART Station)	4.13-9
4.13-4 AMTRAK Annual Ridership	4.13-10
4.13-5 Railroad Crossing Inventory	4.13-14
4.13-6 Railroad Crossing Collisions Summary (2007-2009)	4.13-14
4.13-7 Definitions for Intersection Level of Service	4.13-16
4.13-8 Summary of Intersections Previously Identified as Having Significant and Unavoidable Impacts	4.13-18
4.13-9 Existing Roadway Segment Levels of Service	4.13-22
4.13-10 Summary of Existing Plus Project Roadway Segment Levels of Service	4.13-39
4.13-11 Summary of Cumulative Year 2015 Plus Project Roadway Segment Level of Service	4.13-45
4.13-12 Summary of Cumulative Year 2035 Plus Project Roadway Segment Levels of Service	4.13-50
5-1 Alternative 1 (No Project) Compared Only to Development Facilitated by the Proposed Amendments	5-6
5-2 Alternative 2 (Reduced Growth) Compared Only to Development Facilitated by the Proposed Amendments	5-12
5-3 Alternative 3 (Victory Court Use) Compared Only to Development Facilitated by the Proposed Amendments	5-19
5-4 Summary Comparison of Impacts: Project and Alternatives	5-26

LIST OF ACRONYMS AND ABBREVIATIONS

°C	degrees Centigrade
°F	degrees Fahrenheit
AADT	average annual daily traffic
AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACCMA	Alameda County Congestion Management Analysis
ACCWP	Alameda County Clean Water Program
ACDEH	Alameda County Department of Environmental Health
ACFCWCD	Alameda County Flood Control and Water Conservation District
ACM	asbestos containing material
ACTC	Alameda County Transportation Commission
ACWMA	Alameda County Waste Management Authority
ADA	Americans with Disabilities Act
API	Area of Primary Importance
APS	Alternative Planning Strategy
ARB	Air Resources Board
ARDTP	Archaeological Research Design and Treatment Plan
ASCE	American Society of Civil Engineers
ASI	Area of Secondary Importance
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit
BCDC	Bay Conservation and Development Commission
BGM	Bay Area Greenhouse Gas Model
BMP	Best Management Practice
BRT	Bus Rapid Transit
CAP	Clean Air Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code
CBD	Central Business District
CBTP	Community-Based Transportation Plan

CCAA	California Clean Air Act
CCC	California Coastal Commission
CCCC	California Climate Change Center
CCR	California Code of Regulations
CCTP	Climate Change Technology Program
CCWD	Contra Costa Water District
CDFG	California Department of Fish and Game
CDMG	California Department of Mines and Geology
CEC	California Energy Commission
CEDA	Community and Economic Development Agency
CEQA	California Environmental Quality Act
CERES	California Environmental Resources Evaluation System
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CERC-NFRAP	CERCLIS No Further Remedial Action Planned
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH ₄	methane
CHP	California Highway Patrol
CMP	Congestion Management Program
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂ e	carbon dioxide equivalents
Corps	U.S. Army Corps of Engineers
CPUC	California Public Utilities Commission
CRL	Community Redevelopment Law
CRHR	California Register of Historic Resources
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dba	A-weighted decibel
dbh	diameter at breast height
DHS	Department of Health Services
DOT	Department of Transportation
DSOD	Division of Safety of Dams
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EBMUD	East Bay Municipal Utilities District
EBRPD	East Bay Regional Parks District

ECAP	Energy and Climate Action Plan
EIR	Environmental Impact Report
E.O.	Executive Order
EPA	Environmental Protection Agency
EFH	Essential Fish Habitat
ESU	evolutionary significant unit
FAR	Floor-area Ratio
FCAA	Federal Clean Air Act
FDDC	Fire Department Dispatch Center
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FIP	Federal Implementation Plan
FMP	Fisheries Management Plan
FUDS	Formerly Used Defense Sites
GHG	greenhouse gas
GWP	global warming potential
GWh	gigawatt hours
HABS	Historic American Building Survey
HAP	Hazardous Air Pollutant
HCD	Housing and Community Development
HCM	Highway Capacity Manual
HFC	hydrofluorocarbon
HMARRP	Hazardous Materials Assessment Report and Remediation Plan
HMBP	Hazardous Materials Business Plan
HMMP	Hazardous Materials Management Plan
HPE	Historic Preservation Element
Hz	hertz
I-880	Interstate 880
I-980	Interstate 980
IBC	International Building Code
ICLEI	Local Governments for Sustainability (formerly International Council for Local Environmental Initiatives)
IPCC	International Panel on Climate Change
IRCUP	Inter-Regional Conjunctive Use Project
ITS	Intelligent Transportation System
LCFS	Low Carbon Fuel Standards
LEED	Leadership in Energy and Environmental Design
LID	low impact development
LOS	level of service

LUFT	leaking underground fuel tank
LUTE	Land Use and Transportation Element
M	Richter Magnitude
mgd	million gallons per day
MLW	mean low water
MM	Modified Mercalli
MMPA	Marine Mammal Protection Act
MMT	million metric tons
mph	miles per hour
MPO	metropolitan planning organization
MRZ	Mineral Resource Zone
MSDS	Materials Safety Data Sheets
MT	metric tons
MTC	Metropolitan Transportation Commission
MTS	Metropolitan Transportation System
Mw	Moment Magnitude
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NMFS	National Marine Fisheries Service
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resource Conservation Service
NRDC	Natural Resources Defense Council
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
O ₃	ozone
OCHS	Oakland Cultural Heritage Survey
ODP	Operational Diversion Plan
OES	Office of Emergency Services
OFD	Oakland Fire Department
OHP	Office of Historic Preservation
OMC	Oakland Municipal Code
OPD	Oakland Police Department
OPR	Office of Planning and Research/also [Oakland] Office of Parks and Recreation
OSCAR	Open Space, Conservation and Recreation Element

OSHA	Occupational Safety and Health Administration
OUSD	Oakland Unified School District
Pb	lead
PCB	polychlorinated biphenyl
PCM	parallel climate model
PDHP	Potential Designated Historic Properties
PFC	perfluorocarbon
PGA	peak ground acceleration
PM	particulate matter
PMP	Pedestrian Master Plan
PPD	pounds per person per day
ppm	part(s) per million
PRAC	Park and Recreation Advisory Commission
PRC	Public Resources Code
PSHA	probabilistic seismic hazard assessment
PUC	Public Utilities Commission
PWA	Public Works Agency
RBSL	Risk Based Screening Level
RCRA	Resource Conservation and Recovery Act
RMP	Risk Management Plan
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SAAQS	State Ambient Air Quality Standards (California)
SAB	State Allocation Board
SB	Senate Bill
SCA	Standard Condition of Approval
SCS	Sustainable Communities Strategy
SCVWD	Santa Clara Valley Water District
SCWA	Sacramento County Water Agency
SDC	Seismic Design Category
SDWA	Safe Drinking Water Act
SERAF	Supplemental Educational Revenue Augmentation Fund
SF ₆	sulfur hexafluoride
SIP	State Implementation Plan
SLIC	Spills, Leaks, Investigations, and Cleanup
SMARA	Surface Mining and Reclamation Act
SOV	single-occupant vehicle
SPCC	Spill Prevention, Control and Countermeasure
SRRE	Source Reduction and Recycling Element
SSTL	Site Specific Target Level

SWP	State Water Program
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TAF	thousand acre-feet
TAZ	traffic analysis zones
TCM	transportation control measure
TDM	transportation demand management
TIS	Transportation Impact Study
TMDL	Total Maximum Daily Load
TOD	Transit Oriented Development
TPMP	Transportation and Parking Management Plan
TSP	Transit Service Priority
UCMP	University of California Museum of Paleontology
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
UWMP	Urban Water Management Plan
v/c	volume to capacity
VMT	vehicle miles traveled
vph	vehicles per hour
WBWG	Western Bat Working Group
WMAC	Waste Management of Alameda County
WRRP	Waste Reduction and Recycling Plan
WSA	Water Supply Assessment
WSMP	Water Supply Management Program

CHAPTER 1

Introduction

1.1 Project Overview

The City of Oakland (“City”) as the Lead Agency prepared this program-level Environmental Impact Report (“EIR”) to address the physical and environmental effects of activities facilitated by proposed amendments (“Proposed Amendments”) to the Central District Urban Renewal Plan (“Redevelopment Plan”). Activities facilitated by the Redevelopment Plan with the Proposed Amendments could include development projects, programs, tools and funding implemented within the Central District Redevelopment Project Area (“Project Area”). The Redevelopment Agency of the City of Oakland (“Agency” or “Redevelopment Agency”) is responsible for implementing the Proposed Amendments to the Redevelopment Plan. The Project Area is located in the western part of the City of Oakland, in Alameda County, California. The Project Area encompasses Downtown Oakland and Jack London Square, and the Chinatown and Victorian Row/Old Oakland and Uptown neighborhoods.

This EIR analyzes environmental impacts associated with the activities facilitated by the two Proposed Amendments to the Redevelopment Plan: a 17th Amendment and 18th Amendment.

The proposed 17th Amendment would amend the Plan in three ways. First, it would extend the duration of the Redevelopment Plan from 2012 to 2022 and extend the time period that the Redevelopment Agency can receive tax increment funds from 2022 to 2032, as allowed by Senate Bill (SB) 211 (codified as Health and Safety Code Section 33333.10 et seq.). Second, it would increase the cap on the receipt of tax increment revenue to account for the proposed time extensions, as the Redevelopment Agency is anticipated to exceed its existing cap if the time extension is adopted. Third, it would renew the Redevelopment Agency’s authority to use eminent domain in the Project Area.¹

Redevelopment plans are authorized under the California Community Redevelopment Law (CRL or “Redevelopment Law”), California Health and Safety Code, Division 24, Section 33000 et seq. Under Redevelopment Law, the proposed 17th Amendment requires findings, among other things, that significant blight remains in the Project Area and that blight cannot be eliminated without the Proposed Amendments described above. The Redevelopment Agency is also

¹ **Eminent domain** is the authority of a government agency to acquire property for public purposes, with payment of just compensation. “Public purposes” include the elimination of blight in the case of redevelopment agencies. **Blight** is the substantial and prevalent adverse physical and economic conditions requiring development assistance.

preparing an analysis of the costs of projects and programs required to eradicate this blight and the relationship between this cost and the increase in the cap.

The proposed 18th Amendment would further extend the Redevelopment Plan time limit from 2022 to 2023 and extend the time period that the Redevelopment Agency can receive tax increment funds from 2032 to 2033, as allowed by Health and Safety Code Section 33331.5. Under that statute, when an agency has made its required payments to the County's Supplemental Educational Revenue Augmentation Fund (SERAF), it may amend its plan to extend its plan limits by one year without having to comply with other provisions of redevelopment law governing plan amendments. No blight findings or other analysis is required by Redevelopment Law for a SERAF time extension.

Implementation of actions defined in the Redevelopment Plan and the Proposed Amendments could result in the rehabilitation, reconstruction, construction, or alteration of buildings, housing, public infrastructure, and other physical changes to the environment. Redevelopment activities to be facilitated by the Proposed Amendments would generally remain similar to those currently being implemented. For example, adoption and implementation of the Proposed Amendments would provide a series of multiple, coordinated actions (e.g., tools, programs, and funding) to eliminate blight and facilitate revitalization and growth in the Project Area. The redevelopment activities also would support the construction of additional low- and moderate- income housing.

For purposes of this EIR, the proposed CEQA project is the implementation of the activities facilitated by the Proposed Amendments to the Redevelopment Plan.

1.2 Environmental Review

The City of Oakland is the Lead Agency for this EIR (pursuant to State and local guidelines for implementing the California Environmental Quality Act [CEQA]), and has determined that the Project is subject to CEQA (Public Resources Code Section 21000, et seq. and Section 15000, et seq.) and the State CEQA Guidelines (California Code of Regulations) promulgated thereunder (together "CEQA").

The CEQA Guidelines Section 15180 (a) states that an EIR for a redevelopment plan may be treated as a **Program EIR**. Further, Section 15180(c) states that "if the EIR for a redevelopment plan is a Program EIR, subsequent activities in the program will be subject to the review required by Section 15168." As allowed under CEQA Guidelines Section 15168, this EIR has been prepared to consider all actions facilitated by the Proposed Amendments as one large project because they are in the same geographic location. In addition, a program-level document is most appropriate for this action specifically because it provides for a more exhaustive consideration of effects and alternatives than would be practical in a project-level document. The program-level document allows the City to consider program-wide mitigation measures and cumulative impacts that might be slighted in a case-by-case analysis approach. Preparation of a program-level document also simplifies the task of preparing subsequent environmental documents for those activities that are facilitated by the Proposed Amendments but the details of which are currently unknown.

As stated in the preceding section, the Redevelopment Agency has prepared this Program EIR to analyze the potential environmental effects of the activities facilitated by the Proposed Amendments. The City elected not to prepare an Initial Study Checklist to reduce the scope of the EIR, as permitted by Section 15060(d) of the CEQA Guidelines. This EIR addresses all environmental topics identified in the City of Oakland's CEQA Thresholds/Criteria of Significance document.

EIR Scoping

On October 14, 2010, the City of Oakland issued a Notice of Preparation (NOP), to inform agencies and interested parties of its intent to prepare and distribute a "Draft EIR for Proposed Amendments to the Central District Redevelopment Project Area Plan." The NOP was distributed to governmental agencies, organizations, and persons interested in the Proposed Amendments to the Redevelopment Plan. The Agency sent the NOP to agencies with statutory responsibilities in connection with the Project and requested their input on the scope and content of the environmental information that should be addressed in the EIR. The City of Oakland Planning Commission and the Landmarks Preservation Advisory Board held Scoping Meetings on November 3 and November 8, 2010, respectively, to accept comments regarding the scope of the EIR in response to the NOP. The NOP review period ended on November 15, 2010. The NOP and written and oral comments that the Agency received in response to the NOP are included as **Appendix A** to this Draft EIR, which addresses all comments received in response to the NOP that are relevant to environmental issues. During the public scoping process for this EIR, no specific areas of controversy have arisen relevant to this CEQA analysis.

Public Review

This Draft EIR is available for public review and comment for the period identified on the Notice of Release/Availability of Draft Environmental Impact Report accompanying this document (45 calendar days, March 18 through May 2, 2011). During the public review and comment period, written comments on the Draft EIR may be submitted to the City at the address indicated on the notice. Oral comments may be stated at the public hearing on the Draft EIR, which will be held as indicated on the above-referenced notice.

Following the public review and comment period for the Draft EIR, the City will prepare responses that address all written and oral comments on the Draft EIR's environmental analyses and received within the specified review period. The responses and any other revisions to the Draft EIR will be prepared as a Responses to Comments document. The Draft EIR and its Appendices, together with the Responses to Comments document will constitute a Final EIR (commonly referred to collectively as "EIR") for the activities facilitated by the Proposed Amendments.

Use of this EIR

Pursuant to CEQA, this EIR is a public information document prepared for use by governmental agencies and the public to identify and evaluate potential environmental consequences of the activities facilitated by the Proposed Amendments, to evaluate and recommend mitigation

measures that would substantially lessen or eliminate significant environmental adverse impacts, and to examine a reasonable range of feasible alternatives to the activities facilitated by the Proposed Amendments. The information contained in this Draft EIR is subject to review and consideration by the City of Oakland (see *Project Review and Approval*, below) and any other responsible agency prior to the City's decision to approve, reject or modify the activities facilitated by the Proposed Amendments.

1.3 CEQA Review and Approval

Prior to approving the Proposed Amendments, the City of Oakland must ultimately certify that it has reviewed and considered the information in the EIR and that the EIR has been completed in conformity with the requirements of CEQA. This EIR must be certified and considered by the Lead Agency before any final Agency decision can be made regarding the amendments to the Central District Redevelopment Urban Renewal Plan. This EIR identified significant effects that would result from the activities facilitated by the Proposed Amendments. Therefore, pursuant to CEQA Guidelines Section 15091, the following findings would be required if the Agency decides to approve the Project:

- (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
- (2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such agency.
- (3) Specified economic, legal, social, technological, or other considerations, including provisions of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

1.4 Redevelopment Law Requirements for Adoption of the Proposed Amendments

Adoption of the Proposed Amendments would require the following key elements pursuant to Redevelopment Law:

- **Preliminary Report:** The Preliminary Report is the statement of comprehensive background information on the Proposed Amendments. This document would need to be prepared and submitted for review to the City Council and other governmental bodies, affected taxing entities, community leaders, and the public.
- **CEQA Compliance:** A CEQA document addressing the environmental impacts of the activities facilitated by the Proposed Amendments (i.e., this EIR) would need to be prepared and the Draft circulated for public comment. A Final EIR and Responses to Comments document would be prepared after the Draft EIR public comment period.
- **Redevelopment Agency and City Council Hearing:** This joint public hearing would be held to discuss the merits of the Proposed Amendments.

- **Ordinance Adoption and EIR Certification:** The City Council and Redevelopment Agency Board would hold a joint public hearing on the Proposed Amendments and the EIR. The City Council and the Redevelopment Agency would adopt resolutions certifying the EIR and would adopt the ordinance amending the Redevelopment Plan.

This EIR will assist the City in satisfying the “CEQA Compliance” requirement.

1.5 Organization of the Draft EIR

Following this Chapter 1, *Introduction*, this Draft EIR is organized as follows:

Chapter 2, *Summary*, contains a brief summary of the activities facilitated by the Proposed Amendments and allows the reader to easily reference the analysis presented in the Draft EIR. Table 2-1, Summary of Impacts, Standard Conditions of Approval (SCAs), Mitigation Measures, and Residual Impacts, is provided at the end of Chapter 2 as a reader-friendly reference to each of the environmental effects, proposed mitigation measures and residual environmental impacts after mitigation is implemented, presented by environmental topic. Chapter 2 also summarizes the Alternatives analysis, areas of controversy and NOP comments received.

Chapter 3, *Project Description*, describes in detail the Project Area and surroundings, the background and regulatory context of the Proposed Amendments and the activities facilitated by the Proposed Amendments. Background regarding the Redevelopment Plan and the goals and objectives of the Redevelopment Plan as amended by the Proposed Amendments also are discussed to provide context. Chapter 3 also identifies other agencies that must consider or approve aspects of the activities facilitated by the Proposed Amendments.

Chapter 4, *Environmental Setting, Impacts, Standard Conditions of Approval, and Mitigation Measures*, discusses the environmental setting (existing physical conditions and regulatory framework), the environmental impacts of the activities facilitated by the Proposed Amendments and cumulative conditions, and the SCAs and mitigation measures that, after implementation, would reduce or eliminate significant impacts.

Chapter 5, *Alternatives*, evaluates a reasonable range of alternatives to the activities facilitated by the Proposed Amendments and identifies an environmentally superior alternative.

Chapter 6, *Impact Overview and Growth Inducement*, summarizes the potentially significant and unavoidable impacts and the cumulative impacts that could result with the activities facilitated by the Proposed Amendments, as they are identified throughout Chapter 4. Chapter 6 also describes the activities facilitated by the Proposed Amendments’ potential for inducing growth.

Chapter 7, *Report Preparation*, identifies the authors of the EIR, including City staff and the EIR consultant team. The key consultants who provided technical resources for the EIR are also identified in this chapter.

Appendices to the Draft EIR are provided at the end of the document and include the NOP, Responses to the NOP, as well as certain supporting background documents used for the impact

analyses for specific topics. All reference documents and persons contacted to prepare the EIR analyses are listed at the end of each analysis section in Chapter 4, *Environmental Setting, Impacts, Standard Conditions of Approval and Mitigation Measures*. The Draft EIR is available for review by the public at the City of Oakland CEDA, Planning Department-Major Projects, under reference Case Number ER 10-0003, located at 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, California 94612.

A *List of Acronyms and Abbreviations* used in this EIR are provided before Chapter 1.

CHAPTER 2

Summary

This chapter is intended to summarize in a stand-alone section the project described in Chapter 3, the impacts and mitigation measures discussed in Chapter 4, the alternatives analysis presented in Chapter 5, and the comments received in response to the Notice of Preparation (NOP) of this EIR.¹

2.1 Project Overview

The City and the Redevelopment Agency of the City of Oakland (“Agency” or “Redevelopment Agency”) propose two amendments (“Proposed Amendments”) to the Central District Urban Renewal Plan (“Redevelopment Plan”). This Environmental Impact Report (“EIR”) analyzes the environmental impacts associated with the Proposed Amendments, which could include the physical and environmental effects of activities facilitated by the Proposed Amendments, specifically development projects, programs, tools and funding implemented within the Central District Redevelopment Project Area (“Project Area”).

The Project Area is in the City’s Central Business District and is located in the western part of the City of Oakland, in Alameda County, California. The Project Area encompasses Downtown Oakland and Jack London Square, and the Chinatown, Victorian Row/Old Oakland and Uptown neighborhoods.

The two Proposed Amendments would amend the Redevelopment Plan in three ways:

1. Extend the duration of the Redevelopment Plan from 2012 to 2023 and extend the time period that the Redevelopment Agency can receive tax increment funds from 2022 to 2033, as allowed by Senate Bill 211 (codified at Health and Safety Code Section 33333.10 et seq.) and by Health and Safety Code Section 33331.5.
2. Increase the cap on the receipt of tax increment revenue to account for the proposed time extension, as the Redevelopment Agency is anticipated to exceed its existing cap if the time extension is adopted.
3. Renew the Agency’s authority for use of eminent domain in the Project Area.

Redevelopment activities facilitated by the Proposed Amendments would generally remain similar to those currently being implemented, and the EIR will analyze the effects of changes in the environment resulting from implementation of an additional 11 years of redevelopment

¹ As a summary, this Chapter includes definitions and information detailed in other sections of the Draft EIR.

activities and tax increment funding. Implementation of the Proposed Amendments would provide a series of multiple, coordinated actions (e.g., tools, programs, and funding) to eliminate blight and facilitate revitalization and growth in the Project Area. The redevelopment activities also would support additional low- and moderate- income housing. Implementation of actions defined in the existing Redevelopment Plan and the Proposed Amendments could result in the rehabilitation, reconstruction, or alteration of buildings, housing, public infrastructure, and other physical changes to the environment.

2.2 Environmental Impacts, Standard Conditions of Approval and Mitigation Measures

All impacts and mitigation measures identified in this EIR are summarized in **Table 2-1, Summary of Impacts, Standard Conditions of Approval, Mitigation Measures, and Residual Impacts**, at the end of this chapter. Table 2-1 includes all impact statements, standard conditions of approval, recommended mitigation measures, and the level of significance of the impact after recommended mitigation measures are implemented.

This EIR identifies activities facilitated by the Proposed Amendments that would result in significant and unavoidable impacts associated with the following topics:

Significant and Unavoidable Air Quality Impacts

- **Impact AIR-3:** Development facilitated by the Proposed Amendments could include residential developments that expose occupants to substantial health risk from diesel particulate matter (DPM) from mobile and stationary sources. Although compliance with City's Standard Conditions of Approval would provide that a site specific health risk assessment (HRA) be prepared, and that would reduce exposures to DPM sources to less than significant, there is no assurance that exposure to gaseous TACs could be reduced to a less-than-significant level at every site.
- **Impact AIR-4:** Development facilitated by the Proposed Amendments could include residential developments that expose occupants to sources of substantial and frequent odors affecting a substantial number of people and would be guided by City policies to reduce potential odor impacts.

Significant and Unavoidable Cultural Resources Impacts

- **Impact CUL-1:** Development facilitated by the Proposed Amendments could result in the physical demolition, destruction, relocation, or alteration of historical resources that are listed in or may be eligible for listing in the federal, state, or local registers of historical resources.
- **Impact CUL-5:** Development facilitated by the Proposed Amendments, combined with cumulative development in the defined geographic area, including past, present, existing, approved, pending, and reasonably foreseeable future development, would contribute considerably to a significant adverse cumulative impact to cultural resources.

Significant and Unavoidable Noise Impacts

- **Impact NOI-2:** Construction pile driving for the Victory Court ballpark that could be facilitated by the Proposed Amendments could increase ambient noise levels for an extended duration and adversely affect the surrounding noise environment.
- **Impact NOI-4:** Operational noise generated by the Victory Court ballpark that could be facilitated by the Proposed Amendments would generate special event noise levels in the Project Area to levels in excess of standards established in the Oakland Noise Ordinance and Planning Code.
- **Impact NOI-7:** Noise generated by the Victory Court ballpark that could be facilitated by the Proposed Amendments, in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could result in a 5dBA permanent increase in ambient noise levels in the project vicinity above levels existing without development facilitated by the Proposed Amendments; and could substantially increase construction noise and operational noise in the Project Area.

Significant and Unavoidable Transportation and Circulation Impacts

- **Impact TRA-1:** Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Existing Plus Project conditions.
- **Impact TRA-2:** Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Cumulative Year 2015 Baseline Plus Project conditions.
- **Impact TRA-3:** Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Cumulative Year 2035 Baseline Plus Project conditions.
- **Impact TRA-4:** Baseball games and other special events at the Victory Court ballpark would adversely affect the surrounding transportation network.
- **Impact TRA-8:** Development facilitated by the Proposed Amendments may result in additional automobile, bicycle, and/or pedestrian traffic at the existing at-grade railroad crossings and potentially contribute to safety issues along the railroad crossings.

2.3 Alternatives

Chapter 5 presents a detailed analysis of a range of reasonable alternatives to the development facilitated by the Proposed Amendments. The alternatives that are analyzed in detail or discussed in this Draft EIR are listed below:

- No Project Alternative
- Reduced Growth Alternative
- Victory Court Use Alternative

The Reduced Growth Alternative is identified as the CEQA-required environmentally superior alternative.

2.4 Areas of Controversy and Scoping Comments

The following CEQA topics were among those that were raised in written comments received in response to the NOP for this EIR (see Appendix A), and include comments stated during the City's scoping meetings held by the Oakland Planning Commission and the City's Landmarks Preservation Advisory Board (LPAB). Each of these CEQA topics is addressed in this Draft EIR. Comments that raised non-CEQA topics are noted but not addressed directly in this Draft EIR. None of the comments received on the NOP raise areas of controversy or issues to be resolved pertinent to the Proposed Amendments to the Redevelopment Plan.

- **Transportation and Circulation**
 - Use the Alameda County Congestion Management Agency Countywide traffic model
 - Conduct a traffic impact study
 - Address impacts of the project on the Metropolitan Transportation System (MTS)
 - Discuss adequacy of project mitigation measures
 - Analyze impacts of the project on Congestion Management Program (CMP) transit levels of service
 - Consider demand-related strategies that are designed to reduce the need for new roadway facilities and to make the most efficient use of existing facilities
 - Consider opportunities to promote countywide bicycle routes identified in the Alameda Countywide Bicycle Plan
 - Consider opportunities to promote pedestrian improvements
 - Address noise impacts of the project
 - Consider a comprehensive Transit Oriented Development (TOD) program
 - Discuss transit oriented development in relation to existing transit services
 - Discuss improvements to transit services to ensure safety for people who use them
- **Hazards**
 - Discuss the impacts of construction-related hazards exposure
- **General**
 - Discuss each of the diverse uses in the Central District
 - Promote a slow growth policy
 - Include introductory or explanatory remarks of what a programmatic EIR is, and examples of eminent domain, so that the reader can better understand the document
 - Clearly spell out definitions and methodologies of the blight study, and any other studies/reports that are necessary as part of EIR, consistent with State law
 - Include local hiring preference for projects within the Project Area

- **Cultural and Historic Resources**
 - Acknowledge the City’s commitment to preserve historic properties, neighborhoods, cultural sites and landscapes in the Project objectives
 - Describe the architectural and historic context, that is, the significant aspects and patterns of development in neighborhoods in the Project Area
 - Support analysis with photos and maps conveying the relevant characteristics of Project Area neighborhoods
 - Include all applicable policies of the Historic Preservation Element

TABLE 2-1
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.1 Aesthetics, Shadow, and Wind		
Impact AES-1: Development facilitated by the Proposed Amendments would not adversely affect scenic public vistas or scenic resources. (Less than Significant)	None Required	Less than Significant
Impact AES-2: Development facilitated by the Proposed Amendments would not substantially degrade the existing visual character or quality of the site and its surroundings. (Less than Significant)	None Required	Less than Significant
Impact AES-3: Development facilitated by the Proposed Amendments would facilitate the creation of new sources of light or glare which could substantially and adversely affect day or nighttime views in the area. (Less than Significant)	Standard Condition of Approval 40: <i>Lighting Plan</i>	Less than Significant
Impact AES-4: Development facilitated by the Proposed Amendments would not result in substantial new shadow that would shade solar collectors, passive solar heaters, public open spaces, or historic resources or otherwise result in inadequate provision of adequate light. (Less than Significant)	None Required	Less than Significant
Impact AES-5: Development facilitated by the Proposed Amendments would not result in adverse wind conditions. (Less than Significant)	None Required	Less than Significant
Impact AES-6: Development facilitated by the Proposed Amendments, in combination with other past, present, and reasonably foreseeable future projects within and around the Project Area, would result in less-than-significant cumulative aesthetic, wind, and shadow impacts. (Less than Significant)	None Required	Less than Significant
4.2 Air Quality		
Impact AIR-1: Development facilitated by the Proposed Amendments would not fundamentally conflict with the Bay Area Clean Air Plan (CAP) because the projected rate of increase in vehicle miles traveled (VMT) or vehicle trips is not greater than the projected rate of increase in population. (Less than Significant)	None Required	Less than Significant
Impact AIR-2: Development facilitated by the Proposed Amendments would not fundamentally conflict with the CAP because the plan demonstrates reasonable efforts to implement control measures contained in the CAP. (Less than Significant)	Standard Condition of Approval 25: <i>Parking and Transportation Demand Management</i>	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.2 Air Quality (cont.)		
Impact AIR-3: Development facilitated by the Proposed Amendments could include residential developments that expose occupants to substantial health risk from diesel particulate matter (DPM) from mobile and stationary sources. Although compliance with City's Standard Conditions of Approval would provide that a site specific health risk assessment (HRA) be prepared, and that would reduce exposures to DPM sources to less than significant, there is no assurance that exposure to gaseous TACs could be reduced to a less-than-significant level at every site. (Significant)	Standard Condition of Approval 95: <i>Indoor Air Quality</i>	Significant and Unavoidable
Impact AIR-4: Development facilitated by the Proposed Amendments could include residential developments that expose occupants to sources of substantial and frequent odors affecting a substantial number of people and would be guided by City policies to reduce potential odor impacts. (Significant)	No mitigation measures available.	Significant and Unavoidable
4.3 Biological Resources		
Impact BIO-1: Development facilitated by the Proposed Amendments could adversely affect, either directly or through habitat modifications, any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (Less than Significant)	Standard Conditions of Approval 44: <i>Tree Removal During Breeding Season; A: Bird Collision Reduction</i>	Less than Significant
Impact BIO-2: Development facilitated by the Proposed Amendments would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (No Impact)	None Required	No Impact
Impact BIO-3: Development facilitated by the Proposed Amendments could have a substantial adverse effect on federally protected wetlands (as defined by Section 404 of the Clean Water Act) or state protected wetlands, through direct removal, filling, hydrological interruption, or other means. (Less than Significant)	Standard Conditions of Approval 55: <i>Erosion and Sedimentation Control Plan; 35: Hazards Best Management Practices; 75: Stormwater Pollution Prevention Plan; 80: Post-construction Stormwater Pollution Management Plan</i>	Less than Significant
Impact BIO-4: Development facilitated by the Proposed Amendments could substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant)	Standard Conditions of Approval 44: <i>Tree Removal During Breeding Season and A: Bird Collision Reduction</i>	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.3 Biological Resources (cont.)		
Impact BIO-5: Development facilitated by the Proposed Amendments would not fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan. (No Impact)	None Required.	No Impact
Impact BIO-6: Development facilitated by the Proposed could fundamentally conflict with the City of Oakland Tree Protection Ordinance (Oakland Municipal Code Chapter 12.36) by removal of protected trees under certain circumstances. (Less than Significant)	Standard Conditions of Approval 46: <i>Tree Replacement Plantings</i> and 47: <i>Tree Protection during Construction</i>	Less than Significant
Impact BIO-7: Development facilitated by the Proposed Amendments could fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect biological resources. (Less than Significant)	Standard Conditions of Approval 83, <i>Creek Protection Plan</i> ; 55: <i>Erosion and Sedimentation Control Plan</i> ; 57: <i>Vibrations Adjacent to Historic Structures</i> ; 35: <i>Hazards Best Management Practices</i> ; 75: <i>Stormwater Pollution Prevention Plan</i> ; 80: <i>Post-construction Stormwater Pollution Management Plan</i>	Less than Significant
Impact BIO-8: Construction activity and operations of development facilitated by the Proposed Amendments, in combination with past, present, existing, approved, pending and reasonably foreseeable future projects in the Project Area, would not result in impacts on special-status species, sensitive habitats, wildlife movement corridors, wetlands, and other waters of the U.S. (Less than Significant)	Standard Conditions of Approval 57: <i>Vibrations Adjacent to Historic Structures</i> ; 35: <i>Hazards Best Management Practices</i> ; 55: <i>Erosion and Sedimentation Control Plan</i> ; 75: <i>Stormwater Pollution Prevention Plan</i> ; 80: <i>Post-construction Stormwater Pollution Management Plan</i> ; 44: <i>Tree Removal During Breeding Season</i> ; 45: <i>Tree Removal Permit</i> ; 46: <i>Tree Replacement Plantings</i> ; 47: <i>Tree Protection during Construction</i> ; A: <i>Bird Collision Reduction</i> ; 83: <i>Creek Protection Ordinance</i>	Less than Significant
4.4 Cultural Resources		
Impact CUL-1: Development facilitated by the Proposed Amendments could result in the physical demolition, destruction, relocation, or alteration of historical resources that are listed in or may be eligible for listing in the federal, state, or local registers of historical resources. (Significant)	Mitigation Measure CUL-1: a) Avoidance, Adaptive Reuse, or Appropriate Relocation of Historically Significant Structures. <ul style="list-style-type: none"> <i>Avoidance.</i> The City shall ensure that all future redevelopment activities allowable under the Proposed Amendments, including demolition, alteration, and new construction, would avoid historical resources (i.e., those listed on federal, state, and local registers). <i>Adaptive Reuse.</i> If avoidance is not feasible, adaptive reuse and rehabilitation of historical resources shall occur in accordance with the Secretary of Interior's Standards for the Treatment of Historic Properties. 	Significant and Unavoidable

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.4 Cultural Resources (cont.)		
Impact CUL-1 (cont.)	<ul style="list-style-type: none"> • <i>Appropriate Relocation.</i> If avoidance or adaptive reuse <i>in situ</i> is not feasible, pursuant to SCA CUL-4, Compliance with Policy 3.7 of the Historic Preservation Element (Property Relocation Rather than Demolition), redevelopment projects able to relocate the affected historical property to a location consistent with its historic or architectural character could reduce the impact less than significant (Historic Preservation Element Action 3.8.1), unless the property's location is an integral part of its significance, e.g., a contributor to a historic district. <p>b) Future Site-specific Surveys and Evaluations.</p> <p>Although most of the Project Area has been surveyed by the City of Oakland's OCHS, evaluations and ratings may change with time and other conditions. As such, there may be numerous other previously unidentified historical resources which would be affected by future redevelopment activities, including demolition, alteration, and new construction. For any future redevelopment project that would occur on or immediately adjacent to buildings 50 years old or older, and would occur between 2012 and 2023 (i.e., buildings constructed prior to 1973), the City shall require specific surveys and evaluations of such properties to determine their potential historical significance at the federal, state, and local levels. Intensive-level surveys and evaluations shall be completed by a qualified architectural historian who meets the Secretary of the Interior's Standards for architectural history. For all historical resources identified as a result of site-specific surveys and evaluations, the City shall ensure that future redevelopment activities, including demolition, alteration, and new construction, would avoid, adaptively reuse and/or appropriately relocate such historical resources in accordance with measure "a" (Avoidance, Adaptive Reuse, or Appropriate Relocation of Historically Significant Structures), above.</p> <p>c) Recordation and Public Interpretation.</p> <p>If measure "a" (Avoidance, Adaptive Reuse, or Appropriate Relocation of Historically-significant Structures) is determined infeasible as part of any future redevelopment scenarios, the City shall evaluate the feasibility of recordation and public interpretation of such resources prior to any construction activities which would directly affect them. Should City staff decide recordation and or public interpretation is required, the following activities would be performed:</p>	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.4 Cultural Resources (cont.)		
Impact CUL-1 (cont.)	<ul style="list-style-type: none"> • <i>Recordation.</i> Recordation shall follow the standards provided in the National Park Service's Historic American Building Survey (HABS) program, which requires large-format photo-documentation of historic structures, a written report, and measured drawings (or photo reproduction of original plans if available). The photographs and report would be archived at local repositories, such as public libraries, historical societies, and the Northwest Information Center at Sonoma State University. The recordation efforts shall occur prior to demolition, alteration, or relocation of any historic resources identified in the Project Area, including those that are relocated pursuant to measure "a" (Avoidance, Adaptive Reuse, or Appropriate Relocation of Historically-significant Structures). Additional recordation could include (as appropriate) oral history interviews or other documentation (e.g., video) of the resource. • <i>Public Interpretation.</i> A public interpretation program would be developed by a qualified historic consultant in consultation with the Landmarks Preservation Advisory Board and City staff, based on a City-approved scope of work and submitted to the City for review and approval. The program could take the form of plaques, commemorative markers, or artistic or interpretive displays which explain the historical significance of the properties to the general public. Such displays would be incorporated into project plans as they are being developed, and would typically be located in a publicly accessible location on or near the site of the former historical resource(s). Public interpretation displays shall be installed prior to completion of any construction projects in the Project Area. <p>Photographic recordation and public interpretation of historically significant properties prior to their demolition or alteration does not typically mitigate the loss of potentially historic resources to a less-than-significant level [CEQA Section 15126.4(b)(2)].</p> <p>d) Financial Contributions.</p> <p>If measure "a" (Avoidance, Adaptive Reuse, or Appropriate Relocation of Historically-significant Structures) and measure "b" (Future Site- specific Surveys and Evaluations) are not satisfied, the project applicants of specific projects facilitated by the Proposed Amendments shall make a financial contribution to the City of Oakland, which can be used to fund other historic preservation projects within the Project Area or in the immediate vicinity. Such programs include, without limitation, a Façade Improvement Program, or the Property Relocation Assistance Program.</p>	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.4 Cultural Resources (cont.)		
Impact CUL-1 (cont.)	This mitigation would conform to Action 3.8.1(9) of the Historic Preservation Element of the City of Oakland General Plan. Contributions to the fund(s) shall be determined by staff at the time of approval of site-specific project plans based on a formula to be determined by the Landmarks Preservation Advisory Board. However, such financial contribution, even in conjunction with measure "c" (Recordation and Public Interpretation), would not reduce the impacts to less-than-significant levels.	
Impact CUL-2: Development facilitated by the Proposed Amendments could result in significant impacts to both known and unknown archaeological resources. (Less than Significant)	Standard Condition of Approval 52: <i>Archaeological Resources</i>	Less than Significant
Impact CUL-3: Development facilitated by the Proposed Amendments could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (Less than Significant)	Standard Condition of Approval 54: <i>Paleontological Resources</i>	Less than Significant
Impact CUL-4: Development facilitated by the Proposed Amendments could disturb human remains, including those interred outside of formal cemeteries. (Less than Significant)	Standard Condition of Approval 53: <i>Human Remains, and 52: Archaeological Resources</i>	Less than Significant
Impact CUL-5: Development facilitated by the Proposed Amendments, combined with cumulative development in the Project Area and citywide, including past, present, existing, approved, pending, and reasonably foreseeable future development, would contribute considerably to a significant adverse cumulative impact to cultural resources. (Significant)	Standard Conditions of Approval 52: <i>Archaeological Resources</i> , 53: <i>Human Remains</i> ; 54: <i>Paleontological Resources</i> ; 56: <i>Compliance with Policy 3.7 of the Historic Preservation Element (Property Relocation Rather than Demolition)</i> ; and 57: <i>Vibrations Adjacent to Historic Structures</i> . Mitigation Measure CUL-1	Significant and Unavoidable
4.5 Geology, Soils and Geohazards		
Impact GEO-1: Development facilitated by the Proposed Amendments could expose people or structures to seismic hazards such as ground shaking and seismic-related ground failure such as liquefaction, differential settlement, or lateral spread (Less than Significant)	Standard Conditions of Approval 58: <i>Soils Report</i> and 59: <i>Geotechnical Report</i> .	Less than Significant
Impact GEO-2: Development facilitated by the Proposed Amendments could be subjected to geologic hazards, including expansive soils, subsidence, seismically induced settlement and differential settlement. (Less than Significant)	Standard Conditions of Approval 58: <i>Soils Report</i> and 59: <i>Geotechnical Report</i> .	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.5 Geology, Soils and Geohazards (cont.)		
Impact GEO-3: Development facilitated by the Proposed Amendments, when combined with other past, present, existing, approved, pending and reasonably foreseeable development in the vicinity, would not result in significant cumulative impacts with respect to geology, soils or seismicity. (Less than Significant)	None Required.	Less than Significant
4.6 Greenhouse Gases and Climate Change		
Impact GHG-1: Development facilitated by the Proposed Amendments would produce greenhouse gas emissions that exceed 1,100 metric tons of CO _{2e} per year, but that would not exceed 4.6 metric tons of CO _{2e} per service population annually. (Less than Significant)	Standard Condition of Approval B: <i>Greenhouse Gas Reduction Plan</i>	Less than Significant
Impact GHG-2: Development facilitated by the Proposed Amendments would not conflict with any applicable plan, policy or regulation of an appropriate regulatory agency adopted for the purpose of reducing greenhouse gas emissions (Less than Significant)	Standard Condition of Approval B: <i>Greenhouse Gas Reduction Plan; 25: Parking and Transportation Demand Management; 26: Dust Control; 27: Construction Emissions; 41: Asbestos Removal in Structures; 55: Erosion and Sedimentation Control Plan; 75: Stormwater Pollution Prevention Plan; 83: Creek Protection Plan; 12: Required Landscape Plan for New Construction and Certain Additions to Residential Facilities; 13: Landscape Requirements for Street Frontages; 15: Landscape Maintenance (residential); 17: Landscape Requirements for Street Frontages; 18: Landscape Maintenance (new commercial and manufacturing); 46: Tree Replacement Plantings; and 36: Waste Reduction and Recycling</i>	Less than Significant
4.7 Hazardous Materials		
Impact HAZ-1: Development facilitated by the Proposed Amendments would result in an increase in the routine transportation, use, and storage of hazardous chemicals. (Less than Significant)	Standard Condition of Approval 35: <i>Best Management Practices</i>	Less than Significant
Impact HAZ-2: Development facilitated by the Proposed Amendments would result in the accidental release of hazardous materials used during construction through improper handling or storage. (Less than Significant)	Standard Condition of Approval 35: <i>Best Management Practices</i>	Less than Significant
Impact HAZ-3: Development facilitated by the Proposed Amendments would result in the exposure of hazardous materials in soil and ground water. (Less than Significant)	Standard Conditions of Approval 68: <i>Best Management Practices for Soil and Groundwater Hazards and 69: Radon or Vapor Intrusion from Soil or Groundwater Sources</i>	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.7 Hazardous Materials (cont.)		
Impact HAZ-4: Development facilitated by the Proposed Amendments would result in the exposure of hazardous building materials during building demolition. (Less than Significant)	Standard Conditions of Approval 65: <i>Lead-based Paint Remediation</i> and 41: <i>Asbestos Removal in Structures</i>	Less than Significant
Impact HAZ -5: Development facilitated by the Proposed Amendments would require use of hazardous materials within 0.25 mile of a school. (Less than Significant)	Standard Condition of Approval 74: <i>Hazardous Materials Business Plan</i>	Less than Significant
Impact HAZ -6: Development facilitated by the Proposed Amendments, when combined with other past, present, existing, approved, pending and reasonably foreseeable development in the vicinity, would result in cumulative hazards. (Less than Significant)	Standard Conditions of Approval 66: <i>Other Materials Classified as Hazardous Waste</i> ; 74: <i>Hazardous Materials Business Plan</i> ; and 61: <i>Site Review by Fire Services Division</i>	Less than Significant
4.8 Hydrology and Water Quality		
Impact HYD-1: Development facilitated by the Proposed Amendments would alter drainage patterns and increase the volume of stormwater, level of contamination or siltation in stormwater flowing from the Project Area. (Less than Significant)	Standard Conditions of Approval 55: <i>Erosion and Sedimentation Control Plan</i> , 75: <i>Stormwater Pollution Prevention Plan</i> ; 80: <i>Post-construction Stormwater Management Plan</i> ; 81: <i>Maintenance Agreement for Stormwater Treatment Measures</i> ; 91: <i>Stormwater and Sewer</i> and 83: <i>Creek Protection Plan</i>	Less than Significant
Impact HYD-2: Development facilitated by the Proposed Amendments could be susceptible to flooding hazards as a result of being placed in a 100-year flood zone as mapped by FEMA. (Less than Significant)	Standard Condition of Approval 90: <i>Structures within a Floodplain</i>	Less than Significant
Impact HYD-3: Development facilitated by the Proposed Amendments could be susceptible to flooding hazards in the event of dam or reservoir failure. (Less than Significant)	None Required	Less than Significant
Impact HYD -4: Development facilitated by the Proposed Amendments could be susceptible to inundation in the event of sea-level rise. (Less than Significant)	None Required	Less than Significant
Impact HYD-5: Development facilitated by the Proposed Amendments would not adversely affect the availability of groundwater supplies or interfere substantially with groundwater recharge (Less than Significant)	None Required	Less than Significant
Impact HYD-6: Development facilitated by the Proposed Amendments would be susceptible to mudflow, seiche, and tsunami-related hazards. (Less than Significant)	None Required	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.8 Hydrology and Water Quality (cont.)		
Impact HYD-7: Development facilitated by the Proposed Amendments, combined with past, present, existing, approved, pending, and reasonably foreseeable future projects would not result in potentially significant cumulative impacts to hydrologic resources. (Less than Significant)	None Required	Less than Significant
4.9 Land Use, Plans and Policies		
Impact LU-1: Development facilitated by the Proposed Amendments would not result in the physical division of an existing community or conflict with nearby land uses. (Less than Significant)	None Required	Less than Significant
Impact LU-2: Development facilitated by the Proposed Amendments would not conflict with applicable land use plans and policies adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)	None Required	Less than Significant
Impact LU-3: Development facilitated by the Proposed Amendments would not fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan. (Less than Significant)	None Required	Less than Significant
Impact LU-4: Development facilitated by the Proposed Amendments, combined with cumulative development in the defined geographic area, including past, present, existing, approved, pending, and reasonably foreseeable future development, does not reveal any significant adverse cumulative impacts in the area. (Less than Significant)	None Required	Less than Significant
4.10 Noise		
Impact NOI-1: Development facilitated by the Proposed Amendments would result in substantial temporary or periodic increases in ambient noise levels in the Project Area above levels existing without the Amendment and in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (Less than Significant)	Standard Conditions of Approval 28: <i>Days/Hours of Construction Operation; 29: Noise Control; 30: Noise Complaint Procedures; 39: Pile Driving and Other Extreme Noise Generators; 38: Vibration and 57: Vibrations Adjacent to Historic Structures</i>	Less than Significant
Impact NOI-2: Construction pile driving for the Victory Court ballpark that could be facilitated by the Proposed Amendments could increase ambient noise levels for an extended duration and adversely affect the surrounding noise environment. (Significant)	Standard Condition of Approval 39: <i>Pile Driving and Other Extreme Noise Generators</i> No additional feasible mitigation is available.	Significant and Unavoidable.

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.10 Noise (cont.)		
Impact NOI-3: Development facilitated by the Proposed Amendments could increase noise levels in the Project Area to levels in excess of standards established in the Oakland Noise Ordinance and Planning Code. (Less than Significant)	Standard Conditions of Approval 31: <i>Interior Noise</i> and 32: <i>Operational Noise (General)</i>	Less than Significant
Impact NOI-4: Operational noise generated by the Victory Court ballpark that could be facilitated by the Proposed Amendments would generate special event noise levels in the Project Area to levels in excess of standards established in the Oakland Noise Ordinance and Planning Code. (Significant)	<p>Standard Condition of Approval 32: <i>Operational Noise (General)</i></p> <p>Mitigation Measure NOI-4a: The City shall ensure that the Victory Court ballpark public address system shall be comprised of a distributed speaker system on-site, which would locate speakers around each section of the park to minimize the impact that might be generated by fewer but louder or high-mounted speaker units.</p> <p>Mitigation Measure NOI-4b: Prior to the first ballpark event at Victory Court, they City shall conduct a detailed acoustic study to assess the predicted long-term noise levels from the Victory Court ballpark at noise sensitive uses. The study shall be used to determine noise attenuation measures necessary to achieve a 45 dBA L_{eq} interior noise level at residences within 300 feet (or one-block) of the ballpark, during ballpark events. Attenuation measures at the stadium shall include, but not be limited to, distributed speakers for the public address system and limitations placed on sound levels associated with various activities to meet the interior noise level standard of 45 dBA L_{eq}. Noise measures shall be taken at receptor locations only with affected property owners' consent, and attenuation measures at or within the affected residences may include, but are not limited to, installation of dual-pane windows, mechanical air conditioning, sound walls and improved ceiling and wall insulation. Within one year after the first ballpark event at Victory Court, the City shall confirm the effectiveness of implemented noise measures, and implement any corrective measures within one additional year.</p>	Significant and Unavoidable.
Impact NOI-5: Traffic generated by development facilitated by the Proposed Amendments could substantially increase traffic noise levels in the Project Area. (Less than Significant)	None Required	Less than Significant
Impact NOI-6: Traffic generated by development facilitated by the Proposed Amendments, in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could substantially increase traffic noise levels in the Project Area; and construction and operational noise levels in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could increase ambient noise levels. (Less than Significant)	None Required	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.10 Noise (cont.)		
Impact NOI-7: Noise generated by the Victory Court ballpark that could be facilitated by the Proposed Amendments, in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could result in a 5dBA permanent increase in ambient noise levels in the project vicinity above levels existing without development facilitated by the Proposed Amendments; and could substantially increase construction noise and operational noise in the Project Area. (Significant)	Mitigation Measure NOI-7: <ul style="list-style-type: none"> Implement Mitigation Measures TRA-1.1: The impacts of events at the ballpark on the surrounding transportation network will be analyzed as part of the project-level environmental analysis for that project. This analysis will identify specific mitigation measures to reduce its impacts and to improve access and circulation for automobiles, transit, pedestrians, and bicycles. Implement Mitigation Measure TRA-4.1: Prepare Special Event Transportation and Parking Management Plan. Prepare a Transportation and Parking Management Plan (TPMP) to minimize the impacts of special events at the ballpark on the surrounding transportation network. 	Significant and Unavoidable
4.11 Population, Employment and Housing		
Impact POP-1: Development facilitated by the Proposed Amendments could displace existing housing and residents, but not in substantial numbers necessitating the construction of replacement housing elsewhere, in excess of that anticipated in the City's Housing Element. (Less than Significant)	None Required	Less than Significant
Impact POP-2: Development facilitated by the Proposed Amendments could displace existing businesses and jobs, but not in substantial numbers necessitating construction of replacement facilities elsewhere, in excess of that anticipated in the City's General Plan. (Less than Significant)	None Required	Less than Significant
Impact POP-3: Development facilitated by the Proposed Amendments individually and in combination with past, present, existing, approved, pending, and reasonably foreseeable future projects would not induce substantial population growth in a manner not contemplated in the General Plan, either directly by facilitating new housing or businesses, or indirectly through infrastructure improvements, such that additional infrastructure is required but the impacts of such were not previously considered or analyzed. (Less than Significant)	None Required	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.12 Public Services and Recreation Facilities		
Impact PSR-1: Development facilitated by the Proposed Amendments could result in an increase in calls for police services, but would not require new or physically altered police facilities in order to maintain acceptable performance objectives. (Less than Significant)	None Required	Less than Significant
Impact PSR-2: Development facilitated by the Proposed Amendments could result in an increase in calls for fire protection and emergency medical response services, but would not require new or physically altered fire protection facilities in order to maintain acceptable performance objectives. (Less than Significant)	None Required	Less than Significant
Impact PSR-3: Development facilitated by the Proposed Amendments could result in new students for local schools, but would not require new or physically altered school facilities to maintain acceptable performance objectives. (Less than Significant)	None Required	Less than Significant
Impact PSR-4: Development facilitated by the Proposed Amendments could increase the use of existing neighborhood and regional parks, but not to the extent that substantial physical deterioration of the facilities would occur or be accelerated. (Less than Significant)	None Required	Less than Significant
Impact PSR-5: Development facilitated by the Proposed Amendments, in combination with other past, present, existing, approved, pending, and reasonably foreseeable future projects within and around the Project Area, would result in a cumulative increase in demand for police, fire, and school services. (Less than Significant)	None Required	Less than Significant
Impact PSR -6: Development facilitated by the Proposed Amendments, in combination with other past, present, existing, approved, pending, and reasonably foreseeable future projects within and around the Project Area, would result in an increased demand for recreational facilities. (Less than Significant)	None Required	
4.13 Transportation and Circulation		
Impact TRA-1: Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Existing Plus Project conditions. (Significant)	Mitigation Measure TRA-1: In general, roadway impacts can be mitigated by widening the roadway and providing additional travel lanes. However, providing additional travel lanes is not feasible and/or desired in most locations in Oakland because it would require additional right-of-way that is not available due to buildings adjacent to the roadway and/or elimination of parking or bicycle lanes. Potential mitigation measures for the impacted segments are discussed below:	Significant and Unavoidable

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.13 Transportation and Circulation (cont.)		
Impact TRA-1 (cont.)	<p>a. The impact on Grand Avenue between Harrison Street and I-580 (#15) may not be mitigated. This segment of Grand Avenue generally provides two travel lanes in each direction, with left-turn pockets, and bicycle lanes and parking on both sides of the street. The area adjacent to the street is occupied by buildings or parks. Providing additional travel lanes would require elimination of parking, bicycle lanes, existing buildings or parks, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.</p> <p>b. The impact on Embarcadero east of 5th Avenue (#18) may be mitigated by widening Embarcadero from one lane to two lanes between 4th and 10th Avenues. This improvement has been identified and adopted by the City as a mitigation measure in the Oak to Ninth EIR. The implementation of this mitigation measure would improve the roadway segment to LOS C and mitigate the impact.</p> <p>A specific development project's contribution to a significant roadway segment or intersection impact, and the feasibility and effectiveness of mitigation measures, can only be determined on a site-by-site or case-by-case basis, which is outside the scope of this environmental analysis. Therefore, the following mitigation measures shall be implemented to mitigate potential traffic impacts of development under the Proposed Amendments:</p> <ul style="list-style-type: none"> • TRA-1.1 Traffic Impact Study (TIS) for Development Projects. Prior to approval of a development application for a development project, which may substantially affect any roadway segment or intersection identified as having a significant impact, the project applicant shall retain a qualified traffic engineer to conduct a Traffic Impact Study (TIS), in accordance with then-current City policies and practices, to identify whether the project would contribute additional vehicular trips to a significant traffic impact on a study roadway segment(s) or intersection(s). <p>The TIS shall be performed in accordance with then-current City policies and practices, and shall generally identify:</p> <ol style="list-style-type: none"> 1. The number of trips generated by development facilitated by the Proposed Amendments 2. The mode split for vehicular trips (i.e., the number of generated trips that would be made by private vehicle) 	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.13 Transportation and Circulation (cont.)		
Impact TRA-1 (cont.)	<ol style="list-style-type: none"> 3. The distribution of vehicular trips on local roadways 4. Based on a quantitative evaluation of the information provided under 1 through 3, above, the City shall make a significance determination of the traffic impact(s) to roadway segment(s) or intersection(s) resulting from the development facilitated by the Proposed Amendments 5. If the level of impact identified under 4 above would be significant, then Mitigation Measure TRA-1.2 shall be employed. • TRA-1.2 Other Mitigations. Depending on the results of the TIS conducted in TRA-1.1, where TRA-1.1 is required to be implemented, the project applicant's traffic engineer shall evaluate the feasibility of the following broad measures at the roadway segment(s) or intersection(s) identified in TRA-1.1 above, and implement those measures determined feasible by the City:¹ <ol style="list-style-type: none"> 1. Install new traffic signals and other roadway improvements that support not only vehicle travel, but all other modes safely to and through the intersection 2. Modify signal operation or phasing 3. Change lane assignment 4. Install bike and pedestrian facilities 5. Optimize signal timing (i.e., adjust the allocation of green time for each intersection approach) for the peak hours 6. Coordinate the signal timing changes with the adjacent intersections that are in the same signal coordination group. <p>To implement those measures determined feasible by the City, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:</p> <ul style="list-style-type: none"> – Plans, Specifications, and Estimates (PS&E) to modify the intersection. All elements shall be designed to City standards in effect at the time of construction and all new or upgraded signals should include these enhancements. All other facilities supporting vehicle 	

¹ The City already requires as a Standard Condition of Approval (SCA-25), the development of a Transportation Demand Management (TDM) Plan for developments with 50 or more residential units or 50,000 square feet or more of new non-residential space.

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.13 Transportation and Circulation (cont.)		
Impact TRA-1 (cont.)	<p>travel and alternative modes through the intersection should be brought up to both City standards and Americans with Disabilities Act (ADA) standards (according to Federal and State Access Board guidelines) at the time of construction.</p> <p>Current City Standards include the elements listed below:</p> <ul style="list-style-type: none"> – 2070L Type Controller with Cabinet Assembly and License seat – GPS communication (clock) – Accessible pedestrian crosswalks according to Federal and State Access Board guidelines – City Standard ADA wheelchair ramps – Full actuation (video detection, pedestrian push buttons, bicycle detection) – Accessible Pedestrian Signals, audible and tactile according to Federal Access Board guidelines – Countdown Pedestrian Signals – Signal interconnect and communication to City Traffic management Center for corridors identified in the City's Intelligent Transportation System (ITS) Master Plan – Signal timing plans for the signals in the coordination group. <p>The project sponsor shall fund, prepare, and install the approved plans and improvements.</p>	Significant and Unavoidable
Impact TRA-2: Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Cumulative Year 2015 Plus Project conditions. (Significant)	<p>Mitigation Measure TRA-2: Implement Mitigation Measures TRA-1.1 and TRA-1.2.</p> <p>Potential mitigation measures for the impacted segments are discussed below:</p> <ol style="list-style-type: none"> a. The impact on 7th Street east of Fallon Street (#6) may not be mitigated. This segment of 7th Street generally provides two travel lanes in each direction, with a center median, and parking on both sides of the street. The area adjacent to the street is occupied by buildings or parking lots. Providing additional travel lanes would require elimination of parking, existing buildings or parking, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable. 	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.13 Transportation and Circulation (cont.)		
Impact TRA-2 (cont.)	<p>b. The impact on Grand Avenue between Harrison Street and I-580 (#15) may not be mitigated. This segment of Grand Avenue generally provides two travel lanes in each direction, with left-turn pockets, and bicycle lanes and parking on both sides of the street. The area adjacent to the street is occupied by buildings or parks. Providing additional travel lanes would require elimination of parking, bicycle lanes, existing buildings or parks, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.</p> <p>c. The impact on Embarcadero east of 5th Avenue (#18) may be mitigated by widening Embarcadero from one lane to two lanes between 4th and 10th Avenues. This improvement has been identified and adopted by the City as a mitigation measure in the Oak to Ninth EIR. The implementation of this mitigation measure would improve the roadway segment to LOS C and mitigate the impact.</p> <p>Mitigation Measures TRA-1.1 and TRA-1.2 would be applied by the City on a development project (case-by-case) basis, as appropriate. Incorporation of Mitigation Measures TRA-1.1 and TRA-1.2 would likely reduce impacts to congested roadway segment(s) and/or intersection(s). The impact on Embarcadero east of 5th Avenue (#18) may be mitigated by widening the street as identified and adopted in the Oak to 9th EIR. The impact on all other roadway segments identified for Grand Avenue and 7th Street would likely remain significant and unavoidable. A more detailed project-specific quantitative analysis of Mitigation Measures TRA-1.1 and TRA-1.2 and identification of more specific mitigation measures are not feasible in this programmatic EIR at this time; therefore, it is conservatively concluded that these mitigation measures would not mitigate the identified significant impacts to a less-than-significant level, and that impacts would remain significant and unavoidable. Therefore, this EIR conservatively identifies impacts on roadway segments as significant and unavoidable impacts.</p>	Significant and Unavoidable
Impact TRA-3: Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Cumulative Year 2035 Plus Project conditions. (Significant)	<p>Mitigation Measure TRA-3: Implement Mitigation Measures TRA-1.1 and TRA-1.2.</p> <p>Potential mitigation measures for the impacted segments are discussed below:</p> <p>a. The impact on 7th Street east of Fallon Street (#6) may not be mitigated. This segment of 7th Street generally provides two travel lanes in each direction, with a center median, and parking on both</p>	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.13 Transportation and Circulation (cont.)		
Impact TRA-3 (cont.)	<p>sides of the street. The area adjacent to the street is occupied by buildings or parking lots. Providing additional travel lanes would require elimination of parking, existing buildings or parking, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.</p> <p>b. The impact on Grand Avenue between Harrison Street and I-580 (#15) may not be mitigated. This segment of Grand Avenue generally provides two travel lanes in each direction, with left-turn pockets, and bicycle lanes and parking on both sides of the street. The area adjacent to the street is occupied by buildings or parks. Providing additional travel lanes would require elimination of parking, bicycle lanes, existing buildings or parks, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.</p> <p>c. The impact on Embarcadero east of Oak Street (#17) may not be mitigated. This segment of Embarcadero provides two eastbound and one westbound travel lanes, with a center median, and bicycle lanes on both sides of the street. The area adjacent to the street is occupied by buildings, parking facilities, or railroad tracks. Providing additional travel lanes would require elimination of bicycle lanes, existing buildings or parks, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.</p> <p>d. The impact on Embarcadero east of 5th Avenue (#18) may be mitigated by widening Embarcadero from one lane to two lanes between 4th and 10th Avenues. This improvement has been identified and adopted by the City as a mitigation measure in the Oak to Ninth EIR. The implementation of this mitigation measure would improve the roadway segment to LOS C and mitigate the impact.</p> <p>e. The impact on Broadway north of Grand Avenue (#20) may not be mitigated. This segment of Broadway provides two travel lanes in each direction, with left-turn pockets and parking on both sides of the street. The area adjacent to the street is occupied by buildings. Providing additional travel lanes would require elimination of on-street parking or existing buildings, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.</p>	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.13 Transportation and Circulation (cont.)		
Impact TRA-3 (cont.)	<p>f. The impact on 5th Avenue south of East 12th Street (#26) may not be mitigated. This segment of 5th Avenue provides one travel lane in each direction, with bicycle lanes and parking on both sides of the street. The area adjacent to the street is mostly built up. Providing additional travel lanes would require elimination of bicycle lanes, on-street parking, or existing buildings, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.</p> <p>Mitigation Measures TRA-1.1 and TRA-1.2 would be applied by the City on a development project (case-by-case) basis, as appropriate. Incorporation of Mitigation Measures TRA-1.1 and TRA-1.2 would likely reduce impacts to congested roadway segment(s) and/or intersection(s). The impact on Embarcadero east of 5th Avenue (#18) may be mitigated by widening the street as identified and adopted in the Oak to 9th EIR. The impact on all other roadway segments identified for segments discussed and listed above would likely remain significant and unavoidable. A more detailed project-specific quantitative analysis of Mitigation Measures TRA-1.1 and TRA-1.2 and identification of more specific mitigation measures are not feasible in this programmatic EIR at this time; therefore, it is conservatively concluded that these mitigation measures would not mitigate the identified significant impacts to a less-than-significant level, and that impacts would remain significant and unavoidable. Therefore, this EIR conservatively identifies impacts on roadway segments as significant and unavoidable impacts.</p>	Significant and Unavoidable
Impact TRA-4: Baseball games and other special events at the Victory Court ballpark would adversely affect the surrounding transportation network (Significant)	<p>Mitigation Measure TRA-4: Implement the following:</p> <ul style="list-style-type: none"> • Implement Mitigation Measure TRA-1.1. The impacts of events at the ballpark on the surrounding transportation network will be analyzed as part of the project-level environmental analysis for that project if and when a detailed proposal is before the City for consideration. This analysis will identify specific mitigation measures to reduce its impacts and to improve access and circulation for automobiles, transit, pedestrians, and bicycles. • TRA-4.1 Prepare Special Event Transportation and Parking Management Plan –Prior to approval of the development application for the proposed ballpark, prepare a Transportation and Parking Management Plan (TPMP) to minimize the impacts of special events at the ballpark on the surrounding transportation network. The TPMP shall include: 	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.13 Transportation and Circulation (cont.)		
Impact TRA-4 (cont.)	<ul style="list-style-type: none"> - Strategies to manage traffic before and after special events - Identification of parking facilities and way-finding to minimize vehicles searching for available parking - Strategies to reduce automobile traffic generated by the project and encourage the use of public transit - Provision for additional transit service to serve the demand for the special events - Wayfinding for pedestrians and bicycles between the ballpark, major transportation nodes, and other destinations in the surrounding areas. 	
Impact TRA-5: Traffic congestion caused by the traffic generated by development facilitated by the Proposed Amendments would substantially increase travel time for AC Transit buses. (Potentially Significant)	<p>Mitigation Measure TRA-5: As part of the review for specific developments, consider implementing the following measures along AC Transit corridors that may experience increased congestion due to traffic generated by the project.</p> <ul style="list-style-type: none"> • Upgrade traffic signal equipment to provide Transit Service Priority (TSP) • Move bus stops from near-side of the intersection to far-side (i.e., from before the signal to after the signal) • Provide bus queue jump lanes where feasible 	Less than Significant
Impact TRA-6: Development facilitated by the Proposed Amendments would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. (Less than Significant)	None Required	Less than Significant
Impact TRA-7: Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments, potentially causing conflicts among motor vehicles, bicycles, or pedestrians. (Less than Significant)	Standard Conditions of Approval 20: <i>Improvements in the Public Right-of-Way (General)</i> and 21: <i>Improvements in the Public Right-of-Way (Specific)</i>	Less than Significant
Impact TRA-8: Development facilitated by the Proposed Amendments may result in additional automobile, bicycle, and/or pedestrian traffic at the existing at-grade railroad crossings and potentially contribute to safety issues along the railroad crossings. (Significant)	Mitigation Measure TRA-8: This mitigation measure should be applied to developments under the Proposed Amendments that would generate substantial multi-modal trips crossing at-grade railroad crossings that could substantially increase hazards between incompatible uses (i.e., motor vehicles and trains, or pedestrians and trains):	Significant and Unavoidable

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.13 Transportation and Circulation (cont.)		
Impact TRA-8 (cont.)	<p><i>Transportation Impact Studies (TIS) for At-grade Railroad Crossings.</i> The TIS, otherwise required to be prepared for proposed developments under this project, in accordance with standard City policies and practices, must evaluate potential impacts to at-grade railroad crossings resulting from project-related traffic. The TIS should examine whether the proposed project would generate substantial multimodal trips crossing at-grade railroad crossings that could substantially increase hazards between incompatible uses (i.e., motor vehicles and trains, pedestrians and trains), which may include a Diagnostic Review for each railroad crossing.</p> <p>If required, the Diagnostic Review must be completed with all affected properties and Stakeholders, in coordination with the California Public Utilities Commission (CPUC). It will include: roadway and rail descriptions; collision history; traffic volumes for all modes; train volumes; vehicular speeds; train speeds; and existing rail and traffic controls. Based on the Diagnostic Review and the number of projected trips, the TIS will evaluate if the proposed project increases hazards at the crossing. For example, vehicle traffic generated by the proposed project may cause vehicle queuing at intersections resulting in traffic spilling back onto at-grade railroad crossings.</p> <p>Where the TIS identifies substantially hazardous crossing conditions caused by the proposed project, mitigations relative to the project's contribution to the crossing as necessary shall be applied through project redesign and/or incorporation of improvements to reduce potential adverse impacts. Proposed improvements must be coordinated with CPUC and affected railroads and all necessary permits/approvals obtained, including a GO 88-B Request (Authorization to Alter Highway Rail Crossings). These improvements may include:</p> <ul style="list-style-type: none"> • Installation of additional warning signage; • Improvements to warning devices at existing rail crossings; • Installation or improvement to automobiles and/or pedestrian control gates; • Installation of concrete panels to provide a smooth crossing surface; • Reduction in the flangeway gap to improve pedestrian and bicyclist safety; • Installation of median separation to prevent vehicles from driving around railroad crossings; 	

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.13 Transportation and Circulation (cont.)		
Impact TRA-8 (cont.)	<ul style="list-style-type: none"> • Improvements to traffic signaling at intersections adjacent to crossings (e.g., signal preemption); • Prohibition of parking within 100 feet of the crossings to improve the visibility of warning devices and approaching trains; • Where soundwalls, landscaping, buildings, etc. would be installed near crossings, maintain the visibility of warning devices and approaching trains; • Elimination of driveways near crossings; • Installation of vandal-resistant fencing or walls to limit the access of pedestrians onto the railroad right-of-way; and/or • Installation of grade separations at crossings. <p>This mitigation measure would be applied by the City on a development project (case-by-case), as appropriate. The incorporation of improvements identified in this mitigation measure could reduce the project's impact to the at-grade railroad crossing to a less-than-significant level. However, to the extent that installation of safety mechanisms is not feasible (physically, financially or otherwise), impacts would remain significant and unavoidable. A more detailed project-specific analysis of this impact and effectiveness of the mitigation measure at specific at-grade railroad crossings is not feasible in this programmatic EIR at this time; therefore, it is conservatively concluded that this mitigation measure would not mitigate the identified significant impact to a less-than-significant level, and the impact would remain significant and unavoidable. Therefore, this EIR conservatively identifies the impact on railroad crossings as significant and unavoidable.</p>	
Impact TRA-9: Development facilitated by the Proposed Amendments would generate services from emergency vehicles. (Less than Significant)	None Required	Less than Significant
Impact TRA-10: Development facilitated by the Proposed Amendments would generate demand for alternative transportation services. (Less than Significant)	Standard Condition of Approval 25: <i>Parking and Transportation Demand Management</i>	Less than Significant
Impact TRA-11: Development facilitated by the Proposed Amendments would generate temporary increases in traffic volume and temporary effects on transportation conditions. (Less than Significant)	Standard Condition of Approval 33: <i>Construction Traffic and Parking</i>	Less than Significant

TABLE 2-1 (Continued)
SUMMARY OF IMPACTS, STANDARD CONDITIONS OF APPROVAL, MITIGATION MEASURES, AND RESIDUAL IMPACTS

Environmental Impact	Standard Conditions of Approval and Mitigation Measures	Level of Significance after application of Standard Conditions of Approval and Mitigation
4.14 Utilities and Service Systems		
Impact UTIL-1: The water demand generated by development facilitated by the Proposed Amendments would not exceed water supplies available from existing entitlements and resources. (Less than Significant)	None Required	Less than Significant
Impact UTIL-2: Development facilitated by the Proposed Amendments would not exceed the wastewater treatment requirements of the San Francisco Regional Water Quality Control Board or result in a determination that new or expanded wastewater treatment facilities would be required. (Less than Significant)	None Required	Less than Significant
Impact UTIL-3: Development facilitated by the Proposed Amendments would not require or result in construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)	Standard Conditions of Approval 91: <i>Stormwater and Sewer</i> , 75: <i>Stormwater Pollution Prevention Plan</i> ; 80: <i>Post-construction Stormwater Management Plan</i>	Less than Significant
Impact UTIL-4: Development facilitated by the Proposed Amendments would not generate solid waste that would exceed the permitted capacity of the landfills serving the area (Less than Significant)	Standard Condition of Approval 36: <i>Waste Reduction and Recycling</i>	Less than Significant
Impact UTIL-5: Development facilitated by the Proposed Amendments would not violate applicable federal, state and local statutes and regulations relating to energy standards; nor result in a determination by the energy provider which serves or may serve the area that it does not have adequate capacity to serve projected demand in addition to the providers' existing commitments and require or result in construction of new energy facilities or expansion of existing facilities. (Less than Significant)	None Required	Less than Significant
Impact UTIL-6: Development facilitated by the Proposed Amendments in combination with other past, present, existing, approved, pending, and reasonably foreseeable future projects within and around the Project Area, would result in an increased demand for utilities services. (Less than Significant)	Standard Conditions of Approval 36: <i>Waste Reduction and Recycling</i> , 91: <i>Stormwater and Sewer</i> , 75: <i>Stormwater Pollution Prevention Plan</i> , 80: <i>Post-construction Stormwater Management Plan</i>	Less than Significant

CHAPTER 3

Project Description

For purposes of this EIR the proposed CEQA project is the activities associated with Proposed 17th and 18th Amendments (“Proposed Amendments”) to the Redevelopment Plan as described in Section 3.2.1, below.

3.1 Background

3.1.1 Overview of the Existing Redevelopment Plan

The Central District Urban Renewal Plan (referred to throughout as “Redevelopment Plan”) sets forth parameters on the Agency’s authority to conduct activities within the Central District Redevelopment Project Area (“Project Area” or “Redevelopment Project Area”). The Central District Project Area is one of ten Redevelopment Project Areas in the City of Oakland. The Redevelopment Plan is a planning document that provides the agency with long-term flexibility to address issues, projects, programs and other activities within the Project Area over the term of the Redevelopment Plan. As described in detail in Section 3.3, below, the Central District Project Area is located in the western part of the City of Oakland, in Alameda County, in the East Bay of the San Francisco Bay Area, California. The City of Oakland adopted the Redevelopment Plan on June 12, 1969. The Redevelopment Plan has subsequently been amended or supplemented several times, with the most recent amendment occurring on July 18, 2006.

Implementation of the existing Redevelopment Plan, and the Redevelopment Plan as amended by the Proposed Amendments described below in Section 3.2.1, provides a series of multiple, coordinated actions (e.g., tools, programs, and funding) to eliminate blight and facilitate revitalization, growth and the creation of temporary and permanent jobs in the Project Area. These activities could include some or all of the following: assembly of blighted and underutilized properties into sites suitable for new sustainable development; disposition of properties for rehabilitation or new construction; low-cost or market-rate loans and/or grants; tax increment and other subsidies; direct improvements to support rehabilitation of blighted structures or new construction on blighted properties; façade and tenant improvement programs as part of a retail attraction and assistance program; public art installations; and infrastructure improvements, including streetscape improvements, installation of utilities, traffic capacity projects, mass-transit improvements, parking facilities, public parks, public facilities and storm drainage improvements, among others. The existing and proposed redevelopment activities also would support the development of additional low- and moderate- income housing.

3.1.2 Purpose and Need for the Redevelopment Plan

A primary purpose of the Redevelopment Plan is the need to correct health and safety concerns and to address economic and physical blight conditions in the Project Area. Redevelopment projects must occur in a blighted area. As described above, blight is defined as substantial and prevalent adverse physical and economic conditions requiring development assistance. Further, blight is a combination of conditions that lead to economic and physical burdens so extreme that a community cannot reverse the situation on its own. Examples of blight include deteriorating and unsafe buildings; inadequate sewers and street lighting; code violations or other factors that make vacant commercial space uninhabitable; dilapidated, overcrowded and unsafe housing and a lack of commercial services, such as banks and stores, to support residents. These conditions and others, are a drain on the community and a hindrance to business investments that would otherwise bring tax revenues to support services in the area.

3.1.3 Redevelopment Plan as Implementation of the General Plan

The Redevelopment Plan facilitates future redevelopment activity within the Project Area consistent with the City of Oakland General Plan. Any amendment to the General Plan requires a matching amendment to the Redevelopment Plan. The General Plan policies regarding redevelopment within the Project Area are primarily included in the following Elements:

- Land Use and Transportation Element (LUTE),
- Open Space, Conservation and Recreation Element (OSCAR),
- Housing Element,
- Noise Element
- Safety Element, and
- Historic Preservation Element.

The Redevelopment Plan complies with all of the City's land use plans and programs, including consistency with adopted or established population and employment projections.

Redevelopment activities are anticipated to include targeting investments and activities toward certain catalyst projects, infrastructure improvement projects and infill development projects that are consistent with the General Plan.

3.2 Project Description

3.2.1 Proposed Amendments

For purposes of this EIR, the proposed **CEQA Project** is the activities associated with implementation of the Proposed Amendments to the Redevelopment Plan. This EIR analyzes the environmental impacts of the CEQA Project. Activities that are supported or implemented pursuant to the Redevelopment Plan but which may occur absent the Proposed Amendments are evaluated in the cumulative impacts analysis of this EIR (see **Table 3-1**).

**TABLE 3-1
POTENTIAL PROJECTS AND PROGRAMS FACILITATED BY
THE PROPOSED AMENDMENTS TO THE REDEVELOPMENT PLAN**

Name	Location	Description
Projects		
Broadway-Valdez District Valdez Triangle Alternative 3	Broadway/27th Street/Harrison/23rd Street	1,107,000 sq ft retail/commercial 752 d.u. ^a 150,000 sq ft hotel 5,460 parking spaces
Ballpark-associated Development within the Central District Area	Victory Court	180,000 sq ft retail 540,000 sq ft office 700 d.u. 39,000 seats ^b
1800 San Pablo ("Uptown Parcel 5")	1800 San Pablo Avenue	110,000 sq ft retail/entertainment 301 parking spaces
Affordable Housing (Low/Mod) Required in the Project Area as a Result of Redevelopment Plan Amendments	Central District-wide	Up to 822 units ^c
Programs		
1-1/2% Public Art Program	Central District-wide	Commissioning of public artwork
10K Housing Initiative—Citywalk & Uptown Parcel 4	Central District-wide	Continuation of the Citywalk and Uptown Parcel 4 residential developments
Site Acquisitions	Central District-wide	Purchase of opportunity parcels for redevelopment purposes
Downtown Capital Project Support	Central District-wide	Support of redevelopment activities in the Project Area
Downtown Façade Improvement Program	Central District-wide	Provides grants and design assistance to existing businesses for making storefront and façade improvements
Downtown Tenant Improvement Program	Central District-wide	Provides incentives to attract retail, restaurants, arts and entertainment businesses to targeted locations in the Project Area
Downtown Streetscape Master Plan	Central District-wide	Construction of public improvements to complement existing and future redevelopment projects, and to attract new public and private investment to the Project Area
Developer Funding Assistance	Central District-wide	Provides funding assistance to developers to address foreclosure and other economy related issues
Downtown Walking Patrol and Police Services Program	Central District-wide	Provides this service to enhance safety and security above standard police patrol levels
Economic Development Program	Central District-wide	Provides support to increase investment in the Project Area
Marketing and Special Events Program	Central District-wide	Provides support for marketing strategies to promote the Project Area
Basement Backfill and Repair Program	Central District-wide	Provide assistance to private property owners with the repair of their deteriorated sub-sidewalk basement spaces in specific areas in the Project Area

**TABLE 3-1
POTENTIAL PROJECTS AND PROGRAMS FACILITATED BY
THE PROPOSED AMENDMENTS TO THE REDEVELOPMENT PLAN**

Name	Location	Description
Programs (cont.)		
Henry J. Robinson Multi-Service Center Minor Upgrades and Operations	Uptown	Provides economic benefits to disadvantaged persons living within or near the Project Area
Public Parks and Facilities	Central District-wide	Provides maintenance at public parks and facilities within the Project Area
Other Public Facilities	Central District-wide	
Other Projects and Programs Supported by the Redevelopment Plan, But that May Occur Without the Proposed Amendments and Therefore Considered Only in the Cumulative Analysis^d		
City Center (T-5/T-6)	550 12th Street/11th Street/ Clay Street	600,000 sq ft office 7,500 sq ft commercial
City Center (T-12)	12th Street/11th Street/ Jefferson/Martin Luther King Way	600,000 sq ft office 95,000 sq ft retail
1100 Broadway	1110 Broadway	Historic rehab & new 20-story 310,000 sq ft office 10,000 sq ft retail
Oakland Ice Center Operations	Uptown	Provides recreational ice skating facility attracting people to this part of the Project Area
George P. Scotlan Memorial Convention Center	Downtown	Operation and maintenance of Agency leased facility
Parking Operations	Central District-wide	Operation and maintenance of Agency-owned public facilities

^a May include individual projects already approved or in predevelopment, and/or other housing development.

^b This program-level analysis conservatively includes 18,000 seats that would be located in the Project Area in addition to 18,000 seats that would be located in the Central City East Redevelopment Plan Area

^c Number of affordable housing units that could result due to the Redevelopment Law requirement that at least 15 percent of all new housing units developed within the Project Area (5,480 units) be affordable to persons and families of low- or moderate-income. This EIR assumes that 5,480 housing units could be built in the 11-year extension period of the Redevelopment Plan, considering projects that are already approved, in predevelopment (as generally identified in the Oakland Housing Element) in addition to those shown above for the Valdez Triangle and Victory Court development. Thus 15 percent of 5,480 units totals 822 affordable units, which would be facilitated by the Proposed Amendments.

^d These projects are approved but not yet constructed major projects in the Project Area and have been previously analyzed under CEQA. These projects are not analyzed as those that may be facilitated by the Proposed Amendments because, as they are already approved, they could occur even without approval of the Proposed Amendments. These projects are part of the cumulative setting only, and are listed here for informational purposes only.

The Redevelopment Plan does not contain specific development proposals for individual sites, nor does it mandate particular actions the Redevelopment Agency will take with regard to specific projects. Thus, the activities associated with implementation of Proposed Amendments include a broad list of potential programs and projects and strategies intended to reduce blight, and a funding mechanism via tax increment financing. These potential programs and projects are consistent with the adopted Oakland General Plan (see Section 3.1.3, above) and are intended to enhance the Central District's function, appearance, and economic vitality in ways that would not otherwise be available.

The first of the Proposed Amendments analyzed in this EIR is the proposed 17th Amendment to the Redevelopment Plan. It would amend the Plan in three ways. First, the 17th Amendment would extend the duration of the Redevelopment Plan from 2012 to 2022 and extend the time period that the Redevelopment Agency can receive tax increment funds from 2022 to 2032, as allowed by Senate Bill (SB) 211 (codified at Health and Safety Code Section 33333.10 et seq.). Under California Redevelopment Law, an extension of the Redevelopment Plan requires findings, among other things, that significant blight remains in the Project Area and that the blight cannot be eliminated without extending the effectiveness of the Plan and the receipt of property taxes. For this time extension, remaining areas of blight and “necessary and essential parcels” in the Central District must be mapped.

Second, the 17th Amendment would increase the cap on the receipt of tax increment revenue to account for the proposed time extensions, as the Redevelopment Agency is anticipated to exceed its existing cap if the time extension is adopted. The Redevelopment Plan includes a cumulative cap on receipt of tax increment revenues, set at \$1.34 billion. The Agency is close to reaching this cap and will exceed it if the SB 211 time extension is adopted (since additional revenues will accrue during the extended time). A plan amendment is required to raise the cap, which also requires findings that significant blight remains in the Project Area and that this blight cannot be eliminated without increasing the cap. The amendment also requires an analysis of the cost of projects required to eradicate this blight and the relationship between this cost and the increase in the cap. The Agency has not determined what the new tax increment cap will be and will determine the new amount based on the analysis to be completed by Seifel Consulting, Inc., separate from this EIR.

Third, the 17th Amendment would renew the Redevelopment Agency’s authority to use eminent domain in the Project Area. The Agency’s eminent domain authority within the Central District expired on June 12, 2009. Under Redevelopment Law, such an extension also requires findings based on substantial evidence that significant blight remains in the Project Area and that this blight cannot be eliminated without the use of eminent domain, if necessary.

The second Proposed Amendment analyzed in this EIR is the proposed 18th Amendment to further extend the Redevelopment Plan duration from 2022 to 2023 and extend the time period that the Redevelopment Agency can receive tax increment funds from 2032 to 2033, as allowed by Health and Safety Code Section 33331.5. Under that statute, when an agency has made its required payments to the County’s Supplemental Educational Revenue Augmentation Fund (SERAF), it may amend its plan to extend its plan limits by one year without having to comply with other provisions of Redevelopment Law governing plan amendments. No blight findings or other analysis is required by California Redevelopment Law for a SERAF time extension.

Overall, the redevelopment projects and programs to be facilitated by the Proposed Amendments would generally remain similar to those currently being implemented under the existing Redevelopment Plan. This Program EIR analyzes the impacts that would be expected to occur with implementation of the Redevelopment Plan, as amended, over an approximately 11-year

period, or by the year 2023. Under current time limits, the effectiveness of the Redevelopment Plan will terminate on June 12, 2012, and the ability of the Agency to receive tax increment revenue will expire 10 years thereafter. As allowed by SB 211 (Health and Safety Code Section 33333.10 et seq.) and Health and Safety Code Section 33331.5, the Agency is extending these two time limits for an additional 11 years.

3.2.2 Potential Redevelopment Projects and Programs Facilitated by the Proposed Amendments

Redevelopment activities to be facilitated by the Proposed Amendments would generally remain similar to those currently being implemented. The development facilitated by the Proposed Amendments includes the changes resulting from implementation of additional 11 years of redevelopment activities and tax increment funding. Implementation of the Proposed Amendments would provide a series of multiple, coordinated actions (e.g., projects, programs, and funding) to eliminate blight and facilitate revitalization and growth in the Project Area. These activities could include some or all of the following: assembly of blighted and underutilized properties into sites suitable for new development; low cost loans, grants, subsidies, and direct improvements to blighted structures and/or properties; façade improvement and tenant improvement programs; and infrastructure improvements, including such items as streetscape improvements, installation of utilities, traffic capacity projects, mass-transit improvements, parking facilities, public parks, public facilities and storm drainage improvements, among others. The redevelopment activities also would support additional low- and moderate- income housing.

Implementation of actions defined in the Redevelopment Plan and the Proposed Amendments could result in the rehabilitation, reconstruction, or alteration of buildings, housing, public infrastructure, and other physical changes to the environment.

Table 3-1 above lists the potential projects and programs that would be facilitated by the Proposed Amendments to the Redevelopment Plan; the potential effects to the environment from these proposed activities are analyzed at a Program level in this EIR.

3.2.3 Potential Redevelopment Activities that May Occur Without the Proposed Amendments and Thus Considered Cumulative Development Only

Table 3-1 also specifies projects that may be supported by the Proposed Amendments, but that are analyzed only within the cumulative analysis. These include ongoing programs and major projects located in the Project Area that are approved but not yet constructed, and which have been previously analyzed in certified and/or approved CEQA documents in which Standard Conditions of Approval and/or mitigation measures have been identified and adopted to reduce significant impacts. As such, these programs and projects could occur even without approval of the Proposed Amendments and, therefore, are analyzed within the cumulative analysis and reflected in the Cumulative Year 2015 and Cumulative Year 2035 conditions.

Regarding housing development specifically, housing development analyzed as part of the Proposed Amendments as shown in Table 3-1 are units considered to occur only if the Proposed Amendments are approved. Certainly, other housing development is anticipated to occur within the Project Area during the duration of the Redevelopment Plan to 2022. In particular, an estimate of up to approximately 5,480 units are anticipated from housing that is already approved or currently in predevelopment, including units in the Valdez Triangle and Victory Court development listed in Table 3-1. The Proposed Amendments to the Redevelopment Plan will require that at least 15 percent of all new housing units developed within the Project Area (15 percent of 5,480 = 822) would be required to be affordable to persons and families of low- or moderate-income. Thus, 822 affordable units (in addition to units in the Valdez Triangle and Victory Court developments) are analyzed as potential development that would be facilitated by the Proposed Amendments. The 5,480 base units are not dependent on the Proposed Amendments and thus not analyzed as such. The effects of these units are analyzed within the cumulative analysis and thus reflected in the Cumulative Year 2015 and Cumulative Year 2035.

3.2.4 Implementation Plans and Strategies

The Redevelopment Agency may use the strategies identified below to achieve the Redevelopment Plan objectives listed in Section 3.4 and to support the potential projects and programs listed in Table 3-1.

Rehabilitation

Appropriate property rehabilitation standards shall be adopted by the City Council for implementation within the Project Area. Within the Project Area, properties not maintained in accordance with Property Rehabilitation Standards may, at the sole discretion of the Redevelopment Agency and with the approval by resolution of the City Council, be acquired by eminent domain or negotiation and rehabilitated by the Redevelopment Agency or others.

Acquisition and Clearance

The Redevelopment Agency may acquire real properties within the Project Area whenever such acquisition removes properties in substandard condition or that are a blighting influence on surrounding properties, or to provide land for public improvements or facilities, or to promote historical or architectural preservation, or to assemble a parcel for redevelopment and the achievement of other Redevelopment Plan objectives. Real properties may be acquired by purchase, gift, exchange, condemnation, or any lawful manner, including eminent domain, where the Redevelopment Agency is authorized to do so.

Other City Controls

The Oakland Planning Code and the Oakland Municipal Code as well as other City ordinances apply throughout the Project Area and all redevelopment activities within the Project Area are subject to the City codes. The Redevelopment Plan provides the framework for the Agency's planning and execution of renewal activities.

Activity Areas

Activity Areas are areas in which the City Council authorizes specific redevelopment actions pursuant to California Redevelopment Law and the Activity Supplement of the Central District Redevelopment Plan.

3.3 Project Area Location and Site Characteristics

The Project Area is generally bounded by the Embarcadero to the south¹, Fallon Street and Lake Merritt to the east, 28th Street and Bay Place to the north, and Interstate 980 (I-980) to the west (see **Figures 3-1** and **3-2**). The Project Area encompasses Downtown Oakland and Jack London Square, and the Chinatown, Victorian Row/Old Oakland and Uptown neighborhoods.

3.3.1 Existing Population, Households and Employment

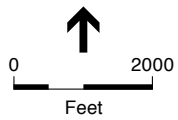
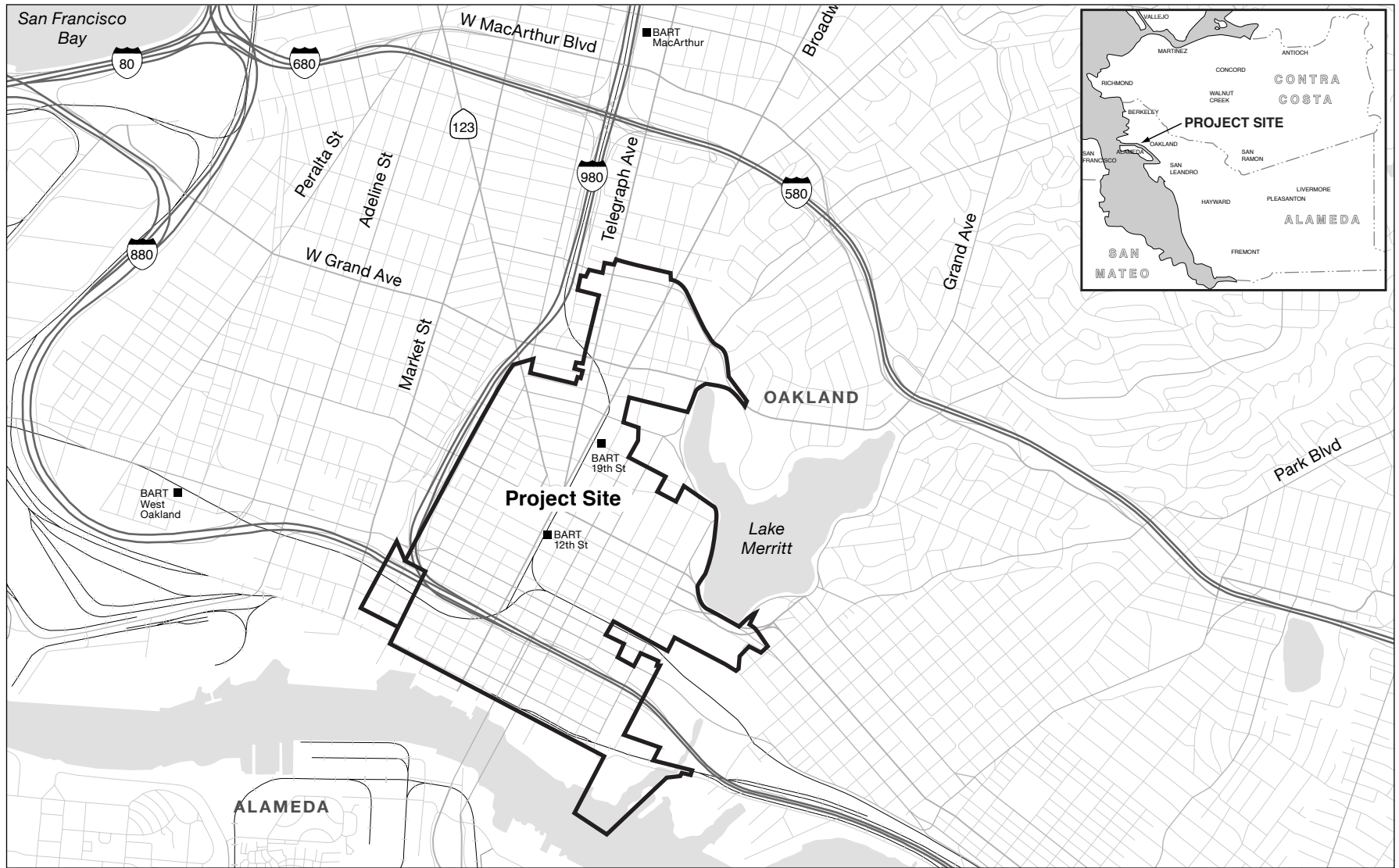
Currently the entire Project Area contains approximately 10,820 households (approximately seven percent of the City's total of 159,180) with a population of approximately 20,380 (approximately five percent of the City's population of 430,670). The Project Area also contains employment opportunities that provide for approximately 59,100 jobs (approximately 31 percent of the City's total of 188,600).

3.3.2 Existing Development

The Project Area covers approximately 828 acres most of which is in the City's Central Business District and is made up of high density, mixed use urban development along with retail and pedestrian-oriented streetscapes. The area south of Interstate 880 (I-880) is in the Estuary Plan Area and has commercial and industrial development; and a small portion adjacent to I-980 is in the Community Commercial and Urban Residential and has mixed commercial, light industrial and high density residential development.

The majority of the Project Area is within the City's Chinatown/Central general planning area. This area is one of the oldest areas of the City. Buildings in this area date from the late 1800s. Three transit-oriented districts (12th Street/Oakland City Center, 19th Street, and Lake Merritt BART stations) are within the Project Area.

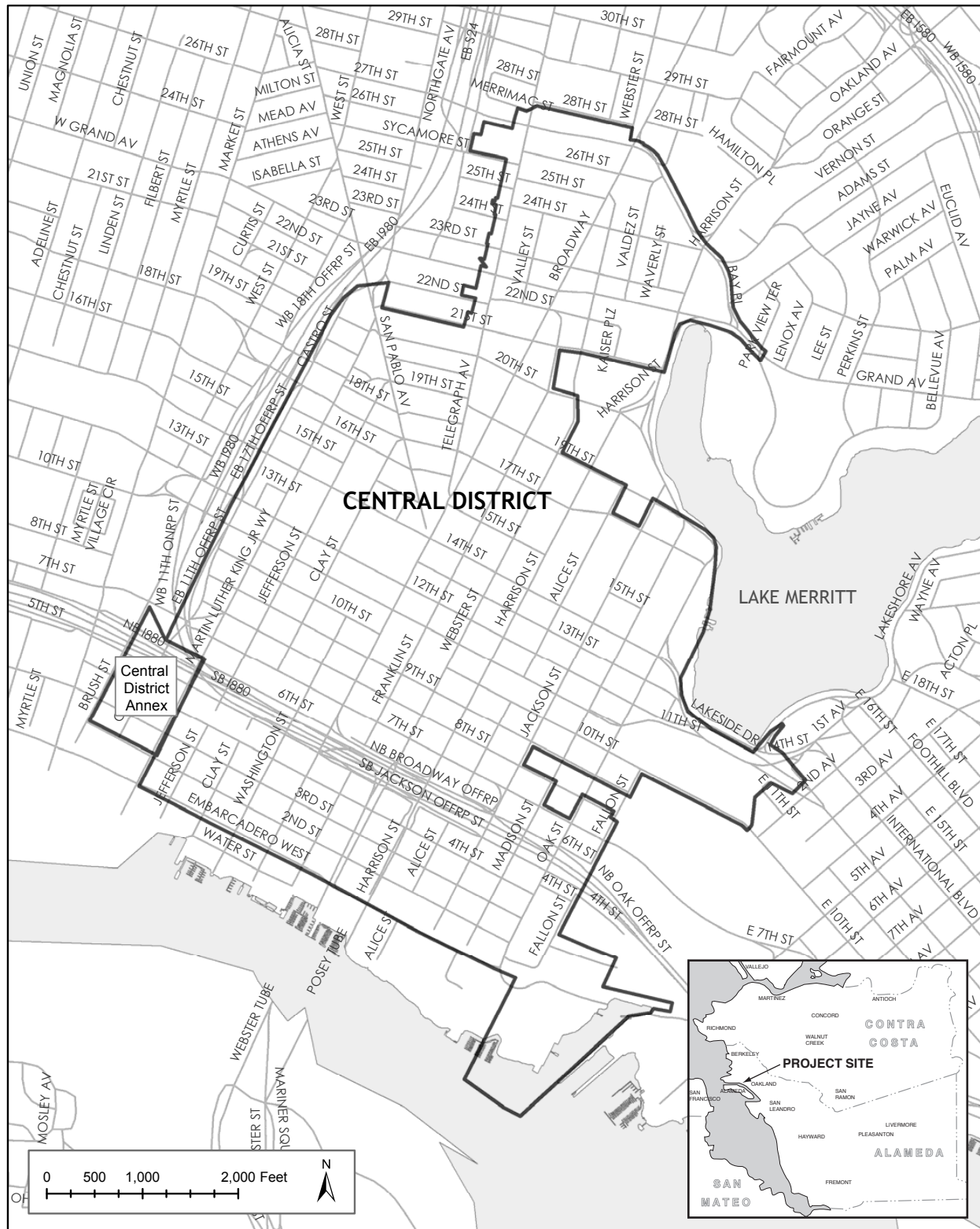
¹ For purposes of this EIR, and following Oakland convention, Broadway runs north-south, and MacArthur Boulevard and streets parallel to it run east-west.



SOURCE: Thomas Bros.; ESA, 2009

Proposed Amendments to the Central District Urban Renewal Plan . 210505.01

Figure 3-1
Project Location Map



SOURCE: City of Oakland, 2006

Proposed Amendments to the Central District Urban Renewal Plan . 210505.01

Figure 3-2
Project Area

3.4 Project Goals and Objectives

The goals and objectives of the activities associated with the Proposed Amendments include assisting in the improvement of the Redevelopment Project Area by redevelopment and private reinvestment to correct health and safety concerns and to address economic and physical blight conditions. Specifically, the goals and objectives are as follows:

- Strengthening of the Redevelopment Project Area's existing role as an important office center for administrative, financial, business service and governmental activities
- Revitalization and strengthening the Central District's historical role as the major regional retail center for the Metropolitan Oakland area
- Establishment of the Redevelopment Project Area as an important cultural and entertainment center
- Re-establishment of residential area for all economic levels within specific portions of the Redevelopment Project Area
- Provisions of employment and other economic benefits to disadvantaged persons living within or near the Redevelopment Project Area
- Correcting health and safety concerns, improving economic conditions and eliminating physical blight conditions throughout the Redevelopment Project Area
- Implementation of Rehabilitation activities pursuant to the Central District Redevelopment Plan per the Implementation Plan
- Restoration of historically significant structures within the Redevelopment Project Area
- Improved environmental design within the Redevelopment Project Area, including creation of a definite sense of place, clear gateways, emphatic focal points and physical design which expresses and respects the special nature of each subarea
- Implement redevelopment within the Redevelopment Project Area that furthers the goals and policies of the Oakland General Plan
- Provision of adequate infrastructure such as public parking, sidewalks, and traffic control
- Utilization of key transit nodes to support transit-oriented development.

3.5 Required Public Agency Approvals

As discussed in Chapter 1 (Introduction), the City of Oakland is the Lead Agency responsible for preparation and certification of this EIR (pursuant to CEQA Guidelines Section 15051). The City and/or the Redevelopment Agency will make decisions on the required discretionary actions in accordance with City plans, policies and ordinances.

This Program EIR is intended to be used to provide CEQA analysis for all required discretionary actions for the activities facilitated by the Proposed Amendments. However, activities facilitated by the Proposed Amendments would be required to obtain all necessary project-specific City approvals necessary to proceed and may be required to conduct their own project-specific environmental review. At the time this EIR was prepared, the discretionary actions and other considerations and approvals anticipated to be required for activities facilitated by the Proposed Amendments include, but are not limited to, those listed below:

- **Conditional Use Permits** (Planning Code Chapter 17.134) – Activities could require a Conditional Use Permit for demolition of any buildings that contain rooming units or the conversion of dwelling units to a non-residential use.
- **Tree Removal Permit** (Oakland Municipal Code Chapter 12.36) – Pursuant to the City’s Protected Trees Ordinance, activities could require an approved Tree Removal Permit prior to removing (or having construction activity near) a “Protected Tree,” as defined in Oakland Municipal Code Section 12.36.020. Tree permits would require approval by the Oakland Office of Parks and Recreation’s Commission (PRAC).
- **Encroachment and Obstruction Permits** (Oakland Municipal Code Chapter 12.08) – Activities could require approval of encroachment and obstruction permits to work within and close to various public rights-of-way in the Project Area.
- **Demolition Permits** (Oakland Municipal Code Chapter 15.36) – Activities could require approval of demolition permits to demolish existing buildings and structures in the Project Area.
- **Excavation Permits** (Oakland Municipal Code Chapter 12.12) – Activities would require approval of excavation permits to conduct excavation activities in the Project Area.
- **Other permits:** Activities could require Building permits, Creek Protection permits, Design Review approval, Tentative Parcel Maps, Tentative Tract Maps, Parcel Map Waivers, Variances, in addition to various other required permits and approvals pursuant to the Oakland Municipal Code, the Oakland Planning Code and applicable Building Codes.

3.6 Other Agencies

Some activities facilitated by the Proposed Amendments may require review and approval by other public and quasi-public agencies and jurisdictions that have purview over specific actions. These other agencies may also consider this EIR in their review and decision-making processes. These other agencies and their jurisdictional permits and approvals may include, but are not limited to, the following:

- **San Francisco Bay Regional Water Quality Control Board (RWQCB)** – acceptance of a Notice of Intent (NOI) to obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit), and Notice of Termination after construction is complete. Granting of required clearances to confirm that all applicable standards, regulations and conditions for all previous contamination at the site have been met.

- **Bay Area Air Quality Management District (BAAQMD)** – compliance with BAAQMD Regulation 2, Rule 1 (General Requirements) for all portable construction equipment subject to that rule.
- **East Bay Municipal Utility District (EBMUD)** – approval of new service requests and new water meter installations.
- **Alameda County Flood Control and Water Conservation District (ACFCWD)** – enforcement of the Stormwater Quality Management Plan and Best Management Practices (BMP) included in Alameda Countywide Clean Water Program’s Stormwater Pollution Prevention Permit (SWPPP). This is done in conjunction with the City of Oakland, one of 18 co-permittees.
- **Alameda County Department of Environmental Health (ACDEH)** – review and acceptance of an updated Hazardous Materials Management Plan and Inventory (HMMP) and the Hazardous Materials Business Plan (HMBP).
- **California Department of Toxic Substances Control (DTSC)** – ensuring compliance with state regulations for the generation, transportation, treatment, storage, and disposal of hazardous waste.
- **California Department of Transportation (Caltrans)** – review and approval of plans, specifications, and estimates (including any equipment or facility upgrades) for modifications to intersections under the jurisdiction of Caltrans to accommodate signal timing changes.
- **Bay Conservation Development Commission (BCDC)** – review and approval of plans and permits for projects along the shoreline of San Francisco Bay (along the southern end of the Project Area).

CHAPTER 4

Environmental Setting, Impacts, Standard Conditions of Approval and Mitigation Measures

This Draft EIR has been prepared in accordance with CEQA, as amended (Public Resources Code Section 21000, et seq.), and the CEQA Guidelines (California Code of Regulations Sections 15000 through 15378).

This chapter contains the analysis of the potential effects to environmental topics considered under CEQA from development facilitated by the Proposed Amendments. This chapter describes the existing setting for each topic, the potential impacts that could result from development facilitated by the Proposed Amendments, relevant plans and policies, and Standard Conditions of Approval that would minimize or avoid potential adverse environmental effects that could result, and identifies mitigation measures necessary to reduce the potential impacts resulting from development facilitated by the Proposed Amendments.

The following provides an overview of the scope of the analysis included in this chapter, organization of the sections, the methods for determining what impacts are significant, and the applicability of the City's Uniformly Applied Development Standards and Standard Conditions of Approval.

4.01 Environmental Topics

The following Sections in this chapter analyze the environmental topics as listed below and presented in the Table of Contents at the front of this document:

- | | |
|---|--|
| 4.1 Aesthetics, Shadow and Wind | 4.9 Land Use, Plans and Policies |
| 4.2 Air Quality | 4.10 Noise |
| 4.3 Biological Resources | 4.11 Population, Housing and Employment |
| 4.4 Cultural Resources | 4.12 Public Services and Recreation Facilities |
| 4.5 Geology, Soils and Geohazards | 4.13 Transportation and Circulation |
| 4.6 Greenhouse Gases and Climate Change | 4.14 Utilities and Service Systems |
| 4.7 Hazardous Materials | |
| 4.8 Hydrology and Water Quality | |

Agricultural Resources and Mineral Resources were determined not to be directly relevant to the Proposed Amendments and are briefly discussed in Chapter 6, *Impact Overview and Growth Inducement*, under Section 6.4, *Effects Found Not to Be Significant*.

4.02 Format of Environmental Topic Sections, Impact Statements, and Mitigation Measures

Each environmental topic section generally includes two main subsections:

- *Existing Setting*, which includes baseline conditions, regulatory setting, Thresholds/Criteria of Significance, and identification of applicable Standard Conditions of Approval (which are discussed below); and
- *Impacts and Mitigation Measures*, which identifies and discusses the potential impact and cites applicable Standard Conditions of Approval and mitigation measures that would, to the extent possible, reduce or eliminate adverse impacts identified in this chapter.

This EIR identifies all impacts with an abbreviated designation that corresponds to the environmental topic addressed (e.g., “HAZ” for hazardous materials). The topic designator is followed by a number that indicates the sequence in which the impact statement occurs within the section. For example, “Impact HAZ-1” is the first (i.e., “1”) hazardous materials impact identified in the EIR. All impact statements are presented in bold text.

The Impact Classification (discussed below) of the project’s effects prior to implementation of mitigation measures is stated in parentheses immediately following the impact statement. The Impact Classification stated in the parentheses immediately following the impact statement does, however, already incorporate the City’s *Standard Conditions of Approval and Uniformly Applied Development Standards*, discussed below.

Similarly, each mitigation measure is numbered to correspond with the impact that it addresses. Where multiple mitigation measures address a single impact, each mitigation measure is numbered sequentially. For example “Mitigation Measure HAZ-1” is the first mitigation identified to address the first hazardous materials impact (i.e., “HAZ”). All mitigation measure statements are presented in bold text.

4.03 Thresholds/Criteria of Significance

Under CEQA, a significant effect is determined as a substantial, or potentially substantial, adverse change in the environment (Public Resources Code Section 21068). Each *Impact and Mitigation Measures* discussion in this chapter is prefaced by criteria of significance, which are the thresholds for determining whether an impact is significant.

This criteria of significance used in this EIR are from the City of Oakland's Thresholds/Criteria of Significance Guidelines (July 15, 2008, Revised Draft November 8, 2010).¹ The City has established these Thresholds/Criteria of Significance Guidelines to help clarify and standardize analysis and decision-making in the environmental review process in the City of Oakland. The Thresholds are offered as guidance in preparing environmental review documents. The City uses these Thresholds unless the location of the project or other unique factors warrants the use of different thresholds. The Thresholds are intended to implement and supplement provisions in the CEQA Guidelines for determining the significance of environmental effects, including CEQA Guidelines Sections 15064, 15064.5, 15065, 15382, and Appendix G, and form the basis of the City's Initial Study and Environmental Review Checklist².

The Thresholds are intended to be used in conjunction with the City's *Standard Conditions of Approval* and *Uniformly Applied Development Standards* (see discussion below), which are incorporated into projects regardless of the determination of a project's environmental impacts.

4.04 Standard Conditions of Approval and Uniformly Applied Development Standards

The City's Standard Conditions of Approval and Uniformly Applied Development Standards (referred to in the EIR as "Standard Conditions of Approval", SCA's or Conditions of Approval) are incorporated into projects as conditions of approval regardless of a project's environmental determination. As applicable, the Standard Conditions of Approval are adopted as requirements of an individual project when it is approved by the City and are designed to, and will, substantially mitigate environmental effects.

In reviewing project applications, the City determines which Standard Conditions of Approval are applied, based upon the zoning district, community plan, and the type(s) of permit(s)/approval(s) required for the project. Depending on the specific characteristics of the project type and/or project site, the City will determine which Standard Conditions of Approval apply to a specific project. For example, Standard Conditions of Approval related to creek protection permits will only be applied to projects on creekside properties.

All relevant Standard Conditions of Approval have been incorporated as part of the analysis for development facilitated by the Proposed Amendments. Because Standard Conditions of Approval are mandatory City requirements, the impact analysis assumes that these will be imposed and implemented by a project. If a Standard Condition of Approval would reduce a potentially significant impact to less than significant, the impact is determined to be less than significant and no mitigation is imposed. Standard Conditions of Approval are not listed as mitigation measures.

¹ City of Oakland. Interim Revised CEQA Transportation Thresholds of Significance, June 30, 2010; City of Oakland GHG/Climate Change Thresholds of Significance, 2/23/10; CEQA Thresholds/Criteria of Significance Guidelines, July 15, 2008.

² Although no Environmental Review Checklist was prepared for this Project, the factors listed for consideration in the Environmental Review Checklist are evaluated in this EIR.

The Standard Conditions of Approval incorporate development policies and standards from various adopted plans, policies, and ordinances (such as the Oakland Planning and Municipal Codes, Oakland Creek Protection, Stormwater Management and Discharge Control Ordinance, Oakland Tree Protection Ordinance, Oakland Grading Regulations, National Pollutant Discharge Elimination System (NPDES) permit requirements, Housing Element-related mitigation measures, California Building Code, and Uniform Fire Code, et al.), which have been found to substantially mitigate environmental effects. Where there are peculiar circumstances associated with a project or project site that will result in significant environmental impacts despite implementation of the Standard Conditions of Approval, the City will determine whether there are feasible mitigation measures to reduce the impact to less than significant levels.

4.05 Impact Classifications

The following level of significance classifications are used throughout the impact analysis in this EIR:

- **Less than Significant (LS)** – The impacts of the proposed project, either before or after implementation of standard conditions of approval and/or feasible mitigation measures, do not reach or exceed the defined Threshold/Criteria of Significance. Generally, no mitigation measure is required for a LS impact.
- **Potentially Significant (PS)** – The impact of the proposed project may reach or exceed the defined Threshold/Criteria of Significance, however it is not evident that, even in the theoretical worst-case standard conditions, a significant impact would occur. Where feasible, standard conditions of approval and/or mitigation measures are identified to reduce the PS impact to LS.
- **Significant (S)** – The impact of the proposed project is expected to reach or exceed the defined Threshold/Criteria of Significance. Feasible mitigation measures and/or standard conditions of approval may or may not be identified to reduce the significant impact to a less than significant level.
- **Significant Unavoidable (SU)** – The impact of the proposed project reaches or exceeds the defined Threshold/Criteria of Significance. No feasible mitigation measure is available to reduce the S impact to LS. In these cases, feasible mitigation measures are identified to reduce the S impact to the maximum feasible extent, and the significant impact is considered SU. Impacts are also classified as SU if a feasible mitigation measure is identified that would reduce the impact to LS, but the approval and/or implementation of the mitigation measure is not within the City of Oakland's or the project applicant's sole control, in which case the analysis cannot presume implementation of the mitigation measure and the resulting LS impact. It is important to clarify that SU is an impact classification that only applies *after* consideration of possible mitigation measures.
- **No Impact (N)** – No noticeable adverse effect on the environmental would occur.

4.06 Environmental Baseline

Overall, pursuant to Section 15125(a) of the CEQA Guidelines, this EIR measures the physical impacts of the proposed project (i.e., the development facilitated by the Proposed Amendments) against a “baseline” of physical environmental conditions at and in the vicinity of the Project Area. The environmental “baseline” is the combined circumstances existing around the time the NOP of the EIR was published, which is October 2010.³ In most cases, the baseline condition relevant to the environmental topic being analyzed is described within each environmental topic section in this chapter. In some cases (such as Section 4.1, Aesthetics, Wind and Shadow), discussion of the baseline condition is detailed or restated in the Impacts Analysis to provide the impact analysis in the most reader-friendly format and organization. The baseline also includes the policy and planning context in which development facilitated by the Proposed Amendments is proposed. This is discussed in detail within Section 4.9, Land Use, Plans and Policies, and identifies any inconsistencies between the development facilitated by the Proposed Amendments and applicable, currently adopted plans and policies.

4.07 Cumulative Analysis

4.07.1 Approach to the Cumulative Analysis

CEQA defines cumulative as “two or more individual effects which, when considered together, are considerable, or which can compound or increase other environmental impact.” Section 15130 of the CEQA Guidelines requires that an EIR evaluate potential environmental impacts when the project’s incremental effect is cumulatively considerable. “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past, present, existing, approved, pending and reasonably foreseeable future projects. These impacts can result from a combination of the proposed project together with other projects causing related impacts. “The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects.” The City of Oakland’s analysis approach specifies “past, present, existing, approved, pending and reasonably foreseeable future projects.”

4.07.2 Cumulative Context

The context used for assessing cumulative impacts typically varies depending on the specific topic being analyzed to reflect the different geographic scope of different impact areas. For example, considerations for the cumulative air quality analysis are different from those used for the cumulative analysis of aesthetics. In assessing aesthetic impacts, only development within the vicinity of the project would contribute to a cumulative visual effect. In assessing air quality impacts, on the other hand, all development within the air basin contributes to regional emissions

³ Except as specified otherwise, any reference to “existing” conditions throughout this EIR refers to the baseline condition as of around October 2010.

of criteria pollutants, and basin-wide projections of emissions is the best tool for determining the cumulative effect. Accordingly, the geographic setting and other parameters of each cumulative analysis discussion can vary.

Generally, the City of Oakland's Major Projects list December 2010–January 2011 (provided as Appendix B to this Draft EIR), as well as cumulative development beyond the Project Area that could potentially result in an incremental impact when added to the proposed project, was used to identify past, present, existing, approved, pending and reasonably foreseeable future projects in the vicinity of the Project Area. Example major cumulative projects located within or near the Project Site include the Kaiser Center Office Project, Alta Bates Summit Medical Center Master Plan Project, Kaiser Permanente Oakland Redevelopment Project, City Walk/City Center T-10 Project, Jack London Square Redevelopment Project, the Lake Merritt BART Station Area Plan Project. However, the Major Projects List is not intended as an inclusive list of cumulative projects considered in this EIR. As discussed above, cumulative projects considered in the cumulative context can vary by environmental topic; therefore, some of the Major Projects listed may not be directly relevant to the cumulative context, depending on the environmental topic.

In some cases, the cumulative context may include more development than listed in the Major Projects list. A primary example is the transportation analyses (and transportation-related traffic and air quality), which use the Alameda County Congestion Management Analysis (ACCMA) travel demand model, which reflects traffic from projects citywide and the broader regional context. Alternatively, as mentioned above, the aesthetics analysis would primarily consider projects within the viewsheds of the Project Area, which may not, for example, include projects on the list that are located in distant Oakland areas, particularly low-rise development not affecting the Oakland skyline. Further, projects contributing to potential cumulative effects to cultural resources, for example, could consider development in and near the Project Area as well as development citywide (in the case of impacts to resource types such as libraries, railroad-related resources, and ethnic sites found throughout the city, although not the case for the Proposed Amendments analyzed in this EIR).

The cumulative discussions in each topical section throughout this Chapter describe the cumulative geographic context considered for each topic at a level appropriate to the program-level analysis presented in this EIR.

4.1 Aesthetics, Shadow and Wind

This section describes the existing visual, shadow, and wind conditions of the Project Area and analyzes how the development facilitated by the Proposed Amendments may affect those conditions. The analysis includes how the development facilitated by the Proposed Amendments may affect the visual quality and visual character of the area, as well as scenic vistas and resources viewed from surrounding public areas, and lighting and glare. Potential changes to shadow and wind conditions are also analyzed. Appropriate City of Oakland Standard Conditions of Approval (SCA) are listed and mitigation measures are identified.

4.1.1 Environmental Setting

Visual Character of the Project Area

The Project Area is a densely-built urban environment with a variety of building types. The street grid is primarily orthogonal, with the exception of the area within the City Center where Broadway, Telegraph Avenue, and San Pablo Avenue interrupt the grid. The City Center is characterized by blocks of high-rise buildings and landscaped areas. The Franklin Street and Webster Street corridors, directly east of the City Center, is characterized by older, masonry low- and mid-rise commercial office buildings, such as the landmark art deco Tribune Tower.

To the southeast of the City Center is the Chinatown neighborhood, which comprises two superblocks of modern, mid-rise buildings as well as the older mix of one- to four-story residential, commercial and mixed-use buildings on small lots extending eastward to Madison Park. Clusters of commercial uses in the Chinatown area are characterized by bright awnings. Directly west of Chinatown are the blocks of Victorian Row/Old Oakland, which are distinguished by two- to five-story buildings with decorative façades, bay windows, and ornamental trim and cornices.

To the north, the Uptown area comprises a mix of building types. To each side of Telegraph Avenue, the taller buildings of the City Center give way to low- and mid-rise apartment buildings, two-story detached residential buildings, one-story industrial buildings, and surface parking lots. North of the Uptown area, the dominant built form comprises single-lot, one-story industrial buildings, with large surface parking lots east of Broadway. This lower built form contrasts with the high-rise office and institutional buildings in a campus-like setting located east of Broadway between Grand Avenue, Lake Merritt, and 17th Street. A similar setting of landscaped open spaces facing institutional, commercial, and residential building forms hugs the Lake Merritt Shoreline with a primarily multi-family residential character below 17th Street and east of Harrison Street, in what is referred to as the city's Gold Coast area. These residential buildings range from two-story buildings to high-rises. Below 17th Street and west of Harrison Street to Broadway is a primarily commercial area of low- and mid-rise masonry buildings with decorative elements comprising a Class B/C office district.

A variety of built forms composes the Project Area's urban environment outside the areas described above, and the Project Area as a whole is characterized primarily by low-rise buildings on small lots and few green spaces, primarily along the I-980 and I-880 freeways. On some blocks are newer mid-rise buildings on larger lots. The sunken I-980 freeway creates a visual void in the built environment directly to the west of the Project Area. Similarly, the elevated I-880 freeway is a visual barrier between the downtown area and the waterfront area surrounding Jack London Square, which contains primarily one- to four-story existing and former industrial-era buildings and surface parking lots. This built environment is interspersed with newer, four- to five-story residential and commercial developments associated with Jack London Square and the Amtrak station. To the east, in the Central District Annex area, the elevated I-880, I-980, and BART tracks are visually prominent, and the area is characterized mainly by low-rise industrial uses and utility uses.

Views of the Project Area and Scenic Resources

Due to the densely built urban environment and relatively flat topography of the Project Area, short-range views of the Project Area (those less than 0.25 mile from the area) are limited to surrounding streets and nearby public open spaces, such as Lakeside Park on Lake Merritt, and Snow Park at Harrison Street and 19th Street. Dynamic short-range views are also available to riders traveling along highways within and adjacent to the Project Area, such as along I-880 and I-980. Mid- and long-range views of the Project Area (approximately 0.5 mile from the area) are available from public open spaces and streets within the City of Oakland, as well as from neighboring jurisdictions—such as from Shoreline Park in the City of Alameda or the Bay Bridge eastbound lanes—although the visually prominent features in the views are the upper stories of the high-rise buildings that are located in the City Center portion of the Project Area.

Scenic resources in the Project Area are primarily limited to historic architectural resources, discussed in Section 4.4, Cultural Resources of this document. Other scenic resources include protected trees, discussed in Section 4.3, Biological Resources.

Light and Glare

The Project Area is located in a built-out urban environment that has existing sources of light and glare associated with land uses typical for an urban setting. Light and glare associated with uses in the City Center, in particular, are emitted upward and outward by high-rise buildings. Light and glare are also associated with street lights and luminaries on major interstate highways that traverse or border the Project Area, such as I-980 and I-880.

Shadow

Shadow conditions within the Project Area are typical of shadow conditions in built-out urban environments. Shadow is most prevalent in the City Center, where the high-rise buildings shade nearby public and private properties, especially during the morning and afternoon hours during late fall and early winter, when the sun is lowest on the horizon. Taller buildings in the area

around Jack London Square, along Grand Avenue, and along 12th, 14th, and Oak Streets in the eastern portion of the Project Area, also cast longer shadows during this time.

Wind

General Wind Conditions

The Project Area lies within a climatological sub region of the San Francisco Bay Area Air Basin where the marine air that travels through the Golden Gate, as well as across San Francisco and the San Bruno Gap, is a dominant weather factor. The Oakland-Berkeley Hills cause the westerly flow of marine air to split off to the north and south of Oakland; this phenomenon tends to diminish wind speeds in Oakland.

Wind flow is generally from the west, and average wind speeds vary from season to season with the strongest average winds occurring during summer and the lightest average winds during winter. Together, the west, north-northwest and south-southeast winds are the most frequent winds that exceed 25 miles per hour (mph).

Wind conditions within the city result from the interaction of the approaching wind with the physical features of the environment—buildings, topography and landscape. Buildings much taller than surrounding buildings intercept winds that might otherwise flow overhead, and bring those winds down the vertical face of the building to ground level, where they create ground-level wind and turbulence. These redirected winds can be incompatible with the intended uses of nearby ground-level spaces.

4.1.2 Regulatory Setting

Local

City of Oakland General Plan

City of Oakland *General Plan* policies that pertain to aesthetics, shadow, and wind relevant to the Redevelopment Plan Amendments include the following:

- ***Policy OS-2.1:*** Protection of Park Open Space: Manage Oakland’s urban parks to protect and enhance their open space character while accommodating a wide range of outdoor activities.
- ***Policy OS-2.2:*** Schoolyard Enhancement: Enhance the availability and usefulness of Oakland’s schoolyards and athletic fields as open space resources by (a) working with the Oakland Unified School District to make schoolyards and school athletic fields available to the public during non-school hours; (b) softening the harsh appearance of schoolyards by varying paving materials, landscaping, and restoring elements of the natural landscape, and (c) encouraging private schools, including church schools, to improve the visual appearance of asphalt yard areas.
- ***Policy OS-4.4:*** Elimination of Blighted Vacant Lots: Discourage property owners from allowing vacant land to become a source of neighborhood blight, particularly in residential areas with large vacant lots.

- Policy OS-9.3: Gateway Improvements: Enhance neighborhood and city identity by maintaining or creating gateways. Maintain view corridors and enhance a sense of arrival at the major entrances to the city, including freeways, BART lines, and the airport entry. Use public art, landscaping, and signage to create stronger City and neighborhood gateways.
- Policy OS-10.1: View Protection: Protect the character of existing scenic views in Oakland, paying particular attention to (a) views of the Oakland Hills from the flatlands; (b) views of downtown and Lake Merritt; (c) views of the shoreline; and (d) panoramic views from Skyline Boulevard, Grizzly Peak Road, and other hillside locations.
- Policy OS-10.2: Minimize Adverse Visual Impacts: Encourage site planning for new development which minimizes adverse visual impacts and take advantage of opportunities for new vistas and scenic enhancement.
- Policy OS-10.3: Underutilized Visual Resources: Enhance Oakland's underutilized visual resources, including the waterfront, creeks, San Leandro Bay, architecturally significant buildings or landmarks, and major thoroughfares.
- Policy OS-11.1: Access to Downtown Open Space: Provide better access to attractive, sunlit open spaces for persons working or living in downtown Oakland. The development of rooftop gardens is encouraged, especially on parking garages.
- Policy T6.2: Improving Streetscapes: The city should make major efforts to improve the visual quality of streetscapes. Design of the streetscape, particularly in neighborhoods and commercial centers, should be pedestrian-oriented and include lighting, directional signs, trees, benches, and other support facilities.
- Policy D2.1: Enhancing the Downtown: Downtown development should be visually interesting, harmonize with its surroundings, respect and enhance important views in and of the downtown, respect the character, history, and pedestrian-orientation of the downtown, and contribute to an attractive skyline.
- Policy W2.10: Making Public Improvements as Part of Projects: Physical improvements to improve the aesthetic qualities of the waterfront, and increase visitor comfort, safety, and enjoyment should be incorporated in the development of projects in the waterfront areas. These amenities may include landscaping, lighting, public art, comfort stations, street furniture, picnic facilities, bicycle racks, signage, etc. These facilities should be accessible to all persons and designed to accommodate elderly and physically disabled persons.
- Policy W3.4: Preserving Views and Vistas: Buildings and facilities should respect scenic viewsheds and enhance opportunities for visual access of the waterfront and its activities.
- Policy W10.7: Jack London Square Area Design Criteria: Developments in this area should be designed to enhance direct access to and along the water's edge, maximize waterfront views and vistas, and make inviting public pedestrian access and spaces. Development and amenities must be sensitive to the surrounding character of pedestrian-oriented activities with focus on cultural and retail entertainment. Traditional and historic buildings and structures are character defining and should be preserved, adapted for new uses, or integrated into new development, where feasible.

Scenic Highways Element

The City's Scenic Highways Element of the *General Plan* (adopted 1974) includes a number of policies that pertain to visual resources identified as part of the Caltrans Scenic Highway Program. Policies within the City's Scenic Highways Element aim to limit signage and visual intrusions and protect panoramic vistas along scenic corridors, and to ensure that new construction within scenic corridors demonstrate "architectural merit" and are "harmonious" with the surrounding landscape. The entire length of MacArthur Freeway (I-580) within Alameda County is identified as part of the Caltrans Scenic Highways Program. It is about half a mile to the northeast of the Project Area.

Oakland Planning Code

The designs of new projects in Oakland are subject to performance criteria that are utilized as part of the City's design review process. These criteria address the projects related to the surrounding visual character, as well as public and private investments in the area. Projects are evaluated based on site, landscaping, height, bulk, arrangement, texture, materials, colors, appurtenances, and other characteristics. Conformance with the Oakland General Plan and any other design guidelines or criteria is also considered.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

The City's SCAs relevant to reducing visual, light and glare, wind, and shade/shadow impacts due to the Redevelopment Plan Amendments are listed below. If the amendments are approved by the City, then all applicable SCAs would be adopted as conditions of approval and required of the activities facilitated by the Proposed Amendments to help ensure less- than-significant impacts to aesthetic resources.

- **SCA 40: Lighting Plan**

Prior to the issuance of an electrical or building permit. The proposed lighting fixtures shall be adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties. Plans shall be submitted to the Planning and Zoning Division and the Electrical Services Division of the Public Works Agency for review and approval. All lighting shall be architecturally integrated into the site.

- **SCA 12: Required Landscape Plan for New Construction and Certain Additions to Residential Facilities**

Prior to issuance of a building permit. Submittal and approval of a landscape plan for the entire site is required for the establishment of a new residential unit (excluding secondary units of five hundred (500) square feet or less), and for additions to Residential Facilities of over five hundred (500) square feet. The landscape plan and the plant materials installed pursuant to the approved plan shall conform to all provisions of Chapter 17.124 of the Oakland Planning Code, including the following:

- a) Landscape plan shall include a detailed planting schedule showing the proposed location, sizes, quantities, and specific common botanical names of plant species.
- b) Landscape plans for projects involving grading, rear walls on downslope lots requiring conformity with the screening requirements in Section 17.124.040, or

vegetation management prescriptions in the S-11 zone, shall show proposed landscape treatments for all graded areas, rear wall treatments, and vegetation management prescriptions.

- c) Landscape plan shall incorporate pest-resistant and drought-tolerant landscaping practices. Within the portions of Oakland northeast of the line formed by State Highway 13 and continued southerly by Interstate 580, south of its intersection with State Highway 13, all plant materials on submitted landscape plans shall be fire-resistant. The City Planning and Zoning Division shall maintain lists of plant materials and landscaping practices considered pest-resistant, fire-resistant, and drought-tolerant.
 - d) All landscape plans shall show proposed methods of irrigation. The methods shall ensure adequate irrigation of all plant materials for at least one growing season.
- **SCA 13: Landscape Requirements for Street Frontages (Residential Construction)**
Prior to issuance of a final inspection of the building permit:
 - a) All areas between a primary Residential Facility and abutting street lines shall be fully landscaped, plus any unpaved areas of abutting rights-of-way of improved streets or alleys, provided, however, on streets without sidewalks, an unplanted strip of land five (5) feet in width shall be provided within the right-of-way along the edge of the pavement or face of curb, whichever is applicable. Existing plant materials may be incorporated into the proposed landscaping if approved by the Director of City Planning.
 - b) In addition to the general landscaping requirements set forth in Chapter 17.124, a minimum of one (1) fifteen-gallon tree, or substantially equivalent landscaping consistent with city policy and as approved by the Director of City Planning, shall be provided for every twenty-five (25) feet of street frontage. On streets with sidewalks where the distance from the face of the curb to the outer edge of the sidewalk is at least six and one-half (6 ½) feet, the trees to be provided shall include street trees to the satisfaction of the Director of Parks and Recreation.
 - **SCA 15: Landscape Maintenance (Residential Construction)**
Ongoing. All required planting shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements. All required fences, walls and irrigation systems shall be permanently maintained in good condition and, whenever necessary, repaired or replaced.
 - **SCA 17: Landscape Requirements for Street Frontages (Commercial and Manufacturing)**
Prior to issuance of a final inspection of the building permit, on streets with sidewalks where the distance from the face of the curb to the outer edge of the sidewalk is at least six and one-half (6 ½) feet and does not interfere with access requirements, a minimum of one (1) twenty-four (24) inch box tree shall be provided for every twenty-five (25) feet of street frontage, unless a smaller size is recommended by the City arborist. The trees to be provided shall include species acceptable to the Tree Services Division.

- **SCA 18: Landscape Maintenance (Commercial and Manufacturing)**

Ongoing. All required planting shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements. All required irrigation systems shall be permanently maintained in good condition and, whenever necessary, repaired or replaced.

- **SCA 19: Underground Utilities**

Prior to issuance of a building permit, the project applicant for projects facilitated by the Proposed Amendments shall submit plans for review and approval by the Building Services Division and the Public Works Agency, and other relevant agencies as appropriate, that show all new electric and telephone facilities; fire alarm conduits; street light wiring; and other wiring, conduits, and similar facilities placed underground. The new facilities shall be placed underground along the project applicant's street frontage and from the project applicant's structures to the point of service. The plans shall show all electric, telephone, water service, fire water service, cable, and fire alarm facilities installed in accordance with standard specifications of the serving utilities.

- **SCA 10: Improvements in the Public Right-of-Way (General)**

Approved prior to the issuance of a P-job or building permit

- a) The project applicant for projects facilitated by the Proposed Amendments shall submit Public Improvement Plans to Building Services Division for adjacent public rights-of-way (ROW) showing all proposed improvements and compliance with the conditions and City requirements including but not limited to curbs, gutters, sewer laterals, storm drains, street trees, paving details, locations of transformers and other above ground utility structures, the design specifications and locations of facilities required by the East Bay Municipal Utility District (EBMUD), street lighting, on-street parking and accessibility improvements compliant with applicable standards and any other improvements or requirements for the project as provided for in this Approval. Encroachment permits shall be obtained as necessary for any applicable improvements- located within the public ROW.
- b) Review and confirmation of the street trees by the City's Tree Services Division is required as part of this condition.
- c) The Planning and Zoning Division and the Public Works Agency will review and approve designs and specifications for the improvements. Improvements shall be completed prior to the issuance of the final building permit.
- d) The Fire Services Division will review and approve fire crew and apparatus access, water supply availability and distribution to current codes and standards.

- **SCA 20: Improvements in the Public Right-of Way (Specific)**

Approved prior to the issuance of a grading or building permit. Final building and public improvement plans submitted to the Building Services Division shall include the following components:

- a) Install additional standard City of Oakland streetlights.

- b) Remove and replace any existing driveway that will not be used for access to the property with new concrete sidewalk, curb and gutter.
- c) Reconstruct drainage facility to current City standard.
- d) Provide separation between sanitary sewer and water lines to comply with current City of Oakland and Alameda Health Department standards.
- e) Construct wheelchair ramps that comply with Americans with Disabilities Act requirements and current City Standards.
- f) Remove and replace deficient concrete sidewalk, curb and gutter within property frontage.
- g) Provide adequate fire department access and water supply, including, but not limited to currently adopted fire codes and standards.

4.1.3 Impacts and Mitigation Measures

Significance Criteria

Development facilitated by the Proposed Amendments would have a significant impact on the environment if it would:

1. Have a substantial adverse effect on a public scenic vista;
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, located within a state or locally designated scenic highway;
3. Substantially degrade the existing visual character or quality of the site and its surroundings;
4. Create a new source of substantial light or glare which would substantially and adversely affect day or nighttime views in the area;
5. Introduce landscape that would now or in the future cast substantial shadows on existing solar collectors (in conflict with California Public Resource Code Section 25980-25986);
6. Cast shadow that substantially impairs the function of a building using passive solar heat collection, solar collectors for hot water heating, or photovoltaic solar collectors;
7. Cast shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space;
8. Cast shadow on an historic resource, as defined by CEQA Section 15064.5(a), such that the shadow would materially impair the resource's historic significance by materially altering those physical characteristics of the resource that convey its historical significance and that justify its inclusion on or eligibility for listing in the National Register of Historic Places, California Register of Historical Resources, Local register of historical resources, or a historical resource survey form (DPR Form 523) with a rating of 1-5;

9. Require an exception (variance) to the policies and regulations in the General Plan, Planning Code, or Uniform Building Code, and the exception causes a fundamental conflict with policies and regulations in the General Plan, Planning Code, and Uniform Building Code addressing the provision of adequate light related to appropriate uses; or
10. Create winds exceeding 36 mph for more than one hour during daylight hours during the year.

Impacts

Scenic Vistas and Scenic Resources

Impact AES-1: Development facilitated by the Proposed Amendments would not adversely affect scenic public vistas or scenic resources. (Less than Significant)

Development facilitated by the Proposed Amendments would not be expected to block or otherwise adversely affect scenic views or scenic resources. As stated above, the area is characterized by a generally flat topography, which limits the extent of short-range views. Private projects would be built within existing property lines and would not be expected to visually obstruct view corridors along City streets. Although new structures may be added to the skyline in specific views, views across Lake Merritt and from other nearby parks and public open space would be maintained and would remain substantially similar to existing conditions.

Regarding scenic resources, the Project Area is partially visible in dynamic views from I-580, which is a designed scenic route located about half a mile from the Project Area. Changes in the Project Area may be noticeable in views along this route. However, due to the distance between I-580 and the Project Area, changes would be primarily associated with larger projects that could be seen in the skyline above the existing built form. Such buildings would not be expected to obstruct views from I-580 or otherwise result in an adverse effect.

Renovation or construction of new projects pursuant to the development facilitated by the Proposed Amendments may very likely require project-specific environmental review because sufficient details about potential projects that may be facilitated by the Proposed Amendments are not available for this program-level analysis. Adherence to the *General Plan* policies and SCAs described in the Setting, above, would effectively mitigate impacts to scenic views and vistas to less-than-significant levels.

Mitigation: None Required.

Visual Character

Impact AES-2: Development facilitated by the Proposed Amendments would not substantially degrade the existing visual character or quality of the site and its surroundings. (Less than Significant)

Development facilitated by the Proposed Amendments would be intended, among other objectives, to improve the visual character of the Project Area by eliminating blighting conditions and improving the physical appearance of public spaces and existing structures. Although the specific designs of development projects facilitated by the Proposed Amendments are not yet known, this program level analysis assumes development that is compatible with the existing built form and architectural character of the Project Area as a whole, and compatible with the distinctive visual character of individual areas. Renovation or construction of new development projects pursuant to the development facilitated by the Proposed Amendments may likely require project-specific environmental review as necessary and appropriate. During that process, as well as the design review process, those proposed projects would be analyzed to determine their individual effect on the visual character of the surrounding environment. In addition, future development would align with and incorporate the *General Plan* policies and SCAs described in the Regulatory Setting, above. Therefore, the impact of development facilitated by the Proposed Amendments on visual character and visual quality would be less than significant.

Mitigation: None Required.

Light and Glare

Impact AES-3: Development facilitated by the Proposed Amendments would facilitate the creation of new sources of light or glare which could substantially and adversely affect day or nighttime views in the area. (Less than Significant)

Development facilitated by the Proposed Amendments could create new sources of light or glare, but these new sources would be consistent with the existing light and glare conditions in the area. The Project Area is already an urbanized environment with associated light and glare. Individual developments would not be expected to change or affect day or nighttime views as a result of increased light or glare to a significant extent. Such projects would be subject to standard project review and approval processes as required by the City of Oakland, and may require additional design review. Individual projects would be required to implement SCA 40, *Lighting Plan*, which would minimize potential impacts resulting from lighting and ensure that lighting and glare effects remain less than significant.

Mitigation: None Required.

Shadow and Wind

Impact AES-4: Development facilitated by the Proposed Amendments would not result in substantial new shadow that would shade solar collectors, passive solar heaters, public open spaces, or historic resources or otherwise result in inadequate provision of adequate light. (Less than Significant)

Development facilitated by the Proposed Amendments could include mid- and high-rise buildings that may cast shadow on public open spaces, solar collector, and historic resources. At this time, however, there are not sufficient details available about potential developments, and this program level analysis assumes projects consistent with mid- and high-rise buildings that currently exist in the Project Area. Through the City's review of individual development project proposals and the design review process, potential project-level effects related to shadow would be determined according to the City's significance criteria (described in Section 4.1.3 above), which specifically consider potential adverse effects of shadow to solar collectors and similar heating facilities, public or quasi-public parks and open spaces, and historic resources. Regarding solar features in particular, the City maintains a list of locations where solar collectors are located throughout the city, and issues permits for such facilities, particularly those sited on rooftops. Individual projects will also be assessed for its proximity to historic resources and open spaces. If a project has potential project-level shadow effects, the City will require through the standard design review and environmental review processes that the project incorporate design changes, to avoid or reduce these potential effects to less than significant at a project level. With the implementation of these procedures, development facilitated by the Proposed Amendments would result in a less-than-significant shadow impact.

Mitigation: None Required.

Impact AES-5: Development facilitated by the Proposed Amendments would not result in adverse wind conditions. (Less than Significant)

Buildings facilitated by the Proposed Amendments could be tall enough to result in adverse wind conditions. However, new high-rise structures amidst existing or other new high-rise structures can sometimes result in general reductions in wind speed and the number and durations of occurrence of wind hazard, other building characteristics, such as location relative to other nearby buildings and/or open spaces, façade articulation, etc., are also considered and, together, can result in increases in adverse wind conditions. Detailed wind studies would be required of individual projects at least 100 feet tall and adjacent to the Oakland Estuary or Lake Merritt or located within downtown. The detailed wind study would determine whether the project would pose potential adverse wind effects (i.e., winds that exceed 36 mph for more than one hour during daylight hours during the year, per the City's significance criteria discussed in Section 4.1.3). If adverse effects are identified, the City would require the project to incorporate measures to reduce such potential effects. Examples of measures that such projects may incorporate, depending on the site-specific conditions, include structural and landscape design features and

modified tower designs: wind protective structures or other apparatus to redirect downwash winds from tall buildings, tree plantings or dense bamboo plantings, arbors, canopies, lattice fencing, etc.

At this time, however, there are not sufficient details available to analyze specific impacts beyond this program level. However, as with shadow impacts, through the City's review of individual development project proposals and the design review process, potential project-level wind impacts would be determined and reduced to less than significant to the extent feasible through adherence to design measures identified through those processes.

Development facilitated by the Proposed Amendments would result in less-than-significant wind impact.

Mitigation: None Required.

Cumulative Impacts

Impact AES-6: Development facilitated by the Proposed Amendments, in combination with other past, present, and reasonably foreseeable future projects within and around the Project Area, would result in less-than-significant cumulative aesthetic, wind, and shadow impacts. (Less than Significant)

Geographic Context

The cumulative geographic context includes the physical environment and viewsheds visible within and across the Project Area.

Impacts

Development facilitated by the Proposed Amendments is intended to increase public and private investment within the plan boundaries, which would improve the overall visual quality of the area. When combined with other cumulative development in and around the Project Area (as described in Major Projects List in Appendix B to this Draft EIR, and discussed in Section 4.07.2, *Cumulative Context*, at the beginning of Chapter 4 of this Draft EIR), the cumulative effects would not result in a significant adverse aesthetics impact, due to past, present and future developments' adherence to the *General Plan* policies and SCAs described earlier in the Setting section, as well as compliance with conditions identified through the City's design review and environmental review processes, when applicable. Present and reasonably foreseeable development, in particular, would be generally consistent with adopted plans and the overall vision of the City and Downtown. Individual development projects facilitated by the Proposed Amendments, in addition to other cumulative projects, would be analyzed for their potential impacts to light and glare, views, visual character, wind, and shadows – through design review and/or the environmental review process. If potential project-level, adverse aesthetics effects are identified through these processes, the project's effects will be reduced to less than significant to

the extent feasible through adherence to project-specific design measures, including design modifications, identified through those processes. It is reasonable to anticipate that present and reasonably foreseeable cumulative development, in addition to redevelopment activities that include new and rehabilitation projects and façade improvement programs, could improve past development that may pose existing adverse aesthetics effects. Therefore, although the effect of cumulative development may change the overall aesthetic character of the Project Area, it would not be expected to be adverse and result in significant cumulative impacts for the reasons discussed above and throughout this analysis. The impact would be less than significant.

Mitigation: None Required.

4.1.4 References

- California Department of Transportation, The California Scenic Highway System, <http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm>, accessed December 2, 2008.
- City of Oakland, Community and Economic Development Agency (CEDA) Major Projects List, 2009 (www.oaklandnet.com)
- City of Oakland, *General Plan, Land Use and Transportation Element (LUTE)*, March 24, 1998, as amended.
- City of Oakland, *General Plan, Open Space, Conservation and Recreation (OSCAR) Element*, June 1996.
- City of Oakland, *General Plan, Scenic Highways Element*, adopted September 1974.
- City of Oakland Planning Code, Section 17.136.050, *Design Review Procedure*, April 15, 2010.

4.2 Air Quality

This section presents an overview of region-specific information related to air quality, including a description of current air quality conditions in the vicinity of the Project Area and sensitive land uses that could be affected by air pollution. The impact analysis discusses the expected emissions associated with development facilitated by the Proposed Amendments, evaluates potential effects on sensitive receptors in the vicinity, and includes appropriate City Standard Conditions of Approval (SCAs). Mitigation measures are identified for significant effects, followed by identification of the residual impact significance after mitigation measures are implemented.

4.2.1 Environmental Setting for Air Quality

Climate and Meteorology

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants. The Project Area is located in the City of Oakland and is within the boundaries of the San Francisco Bay Area Air Basin (Bay Area). The Bay Area Air Basin encompasses the nine-county region including all of Alameda, Contra Costa, Santa Clara, San Francisco, San Mateo, Marin and Napa counties, and the southern portions of Solano and Sonoma counties. The climate of the Bay Area is determined largely by a high-pressure system that is almost always present over the eastern Pacific Ocean off the West Coast of North America. During winter, the Pacific high-pressure system shifts southward, allowing more storms to pass through the region. During summer and early fall, when few storms pass through the region, emissions generated within the Bay Area can combine with abundant sunshine under the restraining influences of topography and subsidence inversions to create conditions that are conducive to the formation of photochemical pollutants, such as ozone and secondary particulates, such as nitrates and sulfates.

More specifically, the Project Area lies approximately two miles east of San Francisco Bay in the Northern Alameda and Western Contra Costa Counties climatological subregion. This subregion extends from Richmond to San Leandro with San Francisco Bay as its western boundary, and its eastern boundary defined by the Oakland-Berkeley Hills. In this area, marine air traveling through the Golden Gate, as well as across San Francisco and the San Bruno Gap, is a dominant weather factor. The Oakland-Berkeley Hills cause the westerly flow of air to split off to the north and south of Oakland, which causes diminished wind speeds. The air pollution potential in this subregion is relatively low for portions close to the Bay, due to the largely good ventilation and less influx of pollutants from upwind sources (Bay Area Air Quality Management District [BAAQMD], 2010).

Wind measurements taken at Oakland International Airport indicate that the predominant wind flow is out of the west-northwest. Northwest winds occur approximately 46 percent of the time. Average wind speeds vary from season to season with the strongest average winds occurring during summer and the lightest average winds during winter. Average wind speeds are 9.7 miles per hour (mph) during summer and 7.4 mph during winter. Temperatures in Oakland average

58 °F annually, ranging from an average of 40°F on winter mornings to an average of mid-70s in the late summer afternoons. Daily and seasonal oscillations of temperature are small because of the moderating effects of the nearby ocean. In contrast to the steady temperature regime, rainfall is highly variable and confined almost exclusively to the “rainy” period from early November to mid-April. Oakland averages 18 inches of precipitation annually, but because much of the area’s rainfall is derived from the fringes of mid-latitude storms, a shift in the annual storm track of a few hundred miles can mean the difference between a very wet year and near drought conditions.

Existing Air Quality

The BAAQMD operates a regional monitoring network that measures the ambient concentrations of the six criteria air pollutants. Existing and probable future levels of air quality in Oakland can generally be inferred from ambient air quality measurements conducted by the BAAQMD at its nearby monitoring stations. The monitoring stations closest to the Project Area are the Alice Street station and the International Boulevard station in Oakland approximately 6.5 miles southeast from the Project Area. The Alice Street station monitored ozone (one-hour and eight-hour) and carbon monoxide for year 2005, and the International Boulevard station monitored ozone (one-hour and eight-hour), particulate matter (PM_{2.5}), carbon monoxide, and nitrogen dioxide for years 2007 through 2009. Data for 2006 was not available near the Project Area. Since the major pollutants of concern in the San Francisco Bay Area are ozone and particulate matter, **Table 4.2-1** shows a four-year summary of monitoring data (2005 and 2007 through 2009) for these pollutants from the Alice Street and International Boulevard stations. Due to the proximity of the Project Area to the stations in Oakland, air quality measurements gathered in Oakland are felt to be generally representative of conditions in the Project Area. Table 4.2-1 also compares measured pollutant concentrations with state and national ambient air quality standards.

Criteria Air Pollutants

Ozone (O₃)

Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NOx). ROG and NOx are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NOx under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone.

**TABLE 4.2-1
AIR QUALITY DATA SUMMARY (2005-2009) FOR THE PROJECT AREA^a**

Pollutant	State Standard ^b	National Standard ^b	Monitoring Data by Year			
			2005	2007	2008	2009
Ozone hourly						
Highest 1-hour average, ppm ^c	0.09	NA	0.068	0.040	0.086	0.092
Days over State Standard			0	0	0	0 ^f
Ozone 8-hour						
Highest 8-hour average, ppm ^c	0.07	0.075	0.045	0.036	0.064	0.062
Days over National Standard			0	0	0	0
Days over State Standard			0	0	0	0
PM2.5						
Highest 24-hour average, µg/m3 ^c	NA	35	NA	22.8	30.1	36.3
Estimated days over National Standard ^d			NA	0 ^e	0	3

^a Data for 2004 and 2005 are from the BAAQMD's Alice Street station in Oakland, within the Project Area; data for 2007 and 2008 are from the BAAQMD's International Boulevard station in Oakland, approximately 6.5 mile southeast from the Project Area; data for 2006 was not available near the Project Area. PM10 data was not available near the Project Area.

^b Generally, state standards and national standards are not to be exceeded more than once per year.

^c ppm = parts per million; µg/m3 = micrograms per cubic meter.

^d Exceedance based on the previous National Standard of 65µg/m3.

^e The CARB states that an exceedance is not necessarily a violation.

^f A violation occurs only if the standard is exceeded. Because 0.092 rounds to 0.09, it is not considered a violation. A recorded concentration of 0.095 or greater would constitute a violation of the state standard.

NA = Not Available or Not Applicable.

SOURCE: California Air Resources Board (CARB), 2008b. Summaries of Air Quality Data, 2004, 2005, 2007;
<http://www.arb.ca.gov/adam/cgi-bin/db2www/adamtop4b.d2w/start>

Carbon Monoxide (CO)

Ambient carbon monoxide concentrations normally are considered a local effect and typically correspond closely to the spatial and temporal distributions of vehicular traffic. Wind speed and atmospheric mixing also influence carbon monoxide concentrations. Under inversion conditions, carbon monoxide concentrations may be distributed more uniformly over an area that may extend some distance from vehicular sources. When inhaled at high concentrations, carbon monoxide combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses.

Carbon monoxide concentrations have declined dramatically in California due to existing controls and programs and most areas of the state including the Project Area region have no problem meeting the carbon monoxide state and federal standards. CO measurements and modeling were important in the early 1980s when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, fewer emissions from new vehicles, and improvements in fuels. The clear success in reducing CO levels is evident in the first paragraph of the executive summary of the CARB 2004 *Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan for Ten Federal Planning Areas* (CARB, 2004), shown below:

“The dramatic reduction in carbon monoxide (CO) levels across California is one of the biggest success stories in air pollution control. Air Resources Board (ARB or Board) requirements for cleaner vehicles, equipment and fuels have cut peak CO levels in half since 1980, despite growth. All areas of the State designated as non-attainment for the federal 8-hour CO standard in 1991 now attain the standard, including the Los Angeles urbanized area. Even the Calexico area of Imperial County on the congested Mexican border had no violations of the federal CO standard in 2003. Only the South Coast and Calexico continue to violate the more protective State 8-hour CO standard, with declining levels beginning to approach that standard.”

Nitrogen Dioxide (NO₂)

NO₂ is a reddish brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO₂. NO₂ may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels.

Nitrogen dioxide is an air quality concern because it acts as a respiratory irritant and is a precursor of ozone. Nitrogen dioxide is a major component of the group of gaseous nitrogen compounds commonly referred to as nitrogen oxides (NO_x). Nitrogen oxides are produced by fuel combustion in motor vehicles, industrial stationary sources (such as industrial activities), ships, aircraft, and rail transit. Typically, nitrogen oxides emitted from fuel combustion are in the form of nitric oxide (NO) and nitrogen dioxide (NO₂). NO is often converted to NO₂ when it reacts with ozone or undergoes photochemical reactions in the atmosphere. Therefore, emissions of NO₂ from combustion sources are typically evaluated based on the amount of NO_x emitted from the source.

Sulfur Dioxide (SO₂)

SO₂ is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel. SO₂ is also a precursor to the formation of atmospheric sulfate, particulate matter and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain.

Particulate Matter (PM)

PM₁₀ and PM_{2.5} consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. (A micron is one-millionth of a meter). PM₁₀ and PM_{2.5} represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Some sources of particulate matter, such as wood burning in fireplaces, demolition, and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility. Large dust particles (diameter greater than 10 microns) settle out rapidly and are easily filtered by human breathing passages. This large dust is of more concern as a soiling nuisance rather than a health hazard. The remaining fraction, PM₁₀ and PM_{2.5}, are a health concern particularly at levels above the federal and state ambient air quality standards. PM_{2.5} (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and thus, are able to penetrate to the deepest parts of the lungs. Scientific studies have suggested links

between fine particulate matter and numerous health problems including asthma, bronchitis, acute and chronic respiratory symptoms such as shortness of breath and painful breathing. Recent studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. Children are more susceptible to the health risks of PM₁₀ and PM_{2.5} because their immune and respiratory systems are still developing.

Mortality studies since the 1990s have shown a statistically significant direct association between mortality (premature deaths) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health (Dockery and Pope, 2006).

Lead (Pb)

Ambient lead concentrations meet both the federal and state standards in the Project Area. Lead has a range of adverse neurotoxin health effects, and was formerly released into the atmosphere primarily via leaded gasoline products. The phase-out of leaded gasoline in California resulted in decreasing levels of atmospheric lead. Development facilitated by the Proposed Amendments would not introduce any new sources of lead emissions; consequently, lead emissions are not required to be quantified and are not further evaluated in this analysis.

Toxic Air Contaminants (TACs)

TACs are air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards, but are regulated by the BAAQMD using a risk-based approach. This approach uses a health risk assessment to determine what sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis of exposure to toxic substances and human health risks from exposure to toxic substances is estimated, based on the potency of the toxic substances.¹

BAAQMD provides two public source inventories of TAC emissions sources within its jurisdiction. The first is its TAC Annual Report, the most recent of which was published in 2007 and identifies several TAC sources in the Central District. The second source is its recently released (May 2010) Google Earth-based inventory of stationary source risks and hazards. This latter source indicates approximately 50 permitted TAC sources on in the Central District. These sources are predominantly associated with commercial and office uses in the area, such as

¹ A health risk assessment is required for permitting approval if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggest a potential public health risk. In these instances, a health risk assessment for the source in question must be prepared. Such an assessment generally evaluates chronic, long-term effects, calculating the increased risk of cancer as a result of exposure to one or more TACs.

emergency diesel generators, gasoline dispensing facilities, boilers and dry cleaning operations. The increased cancer risk values for these sources can vary from less than 0.01 in one million up to 177 in one million, depending on the source.

Odorous Emissions

Though offensive odors from stationary sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency and intensity of the source; wind speed and direction; and the sensitivity of receptors. The CEQA Guidelines recommends that odor impacts be considered for any proposed new odor sources located near existing receptors, as well as any new sensitive receptors located near existing odor sources. Generally, increasing the distance between the receptor and the source will mitigate odor impacts.

BAAQMD provides examples of odor sources which include wastewater treatments plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries and chemical plants. Few odor sources currently exist in the Project Area, however, most of the Project Area is within maximum buffer areas delineated in accordance with BAAQMD factors.

Sensitive Land Uses

Some receptors are considered more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions source, or duration of exposure to air pollutants. Land uses such as schools, children's day care centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress and other air quality-related health problems. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas, because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational uses are also considered sensitive, due to the greater exposure to ambient air quality conditions, and because the presence of pollution detracts from the recreational experience. The Project Area consists of a mixture of commercial, retail and office space as well as residential uses. Located within the Project Area are residential areas, day care facilities, senior community facilities, the recreational area of Lake Merritt, and churches.

4.2.2 Regulatory Setting

Federal

The Federal Clean Air Act (FCAA) requires the U.S. Environmental Protection Agency (USEPA) to identify National Ambient Air Quality Standards (NAAQS or "national standards") to protect public health and welfare. National standards have been established for ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide, respirable particulate matter (PM₁₀ and

PM_{2.5}), and lead (Pb). **Table 4.2-2** shows current national and state ambient air quality standards and provides a brief discussion of the related health effects and principal sources for each pollutant.

TABLE 4.2-2
STATE AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES

Pollutant	Averaging Time	State SAAQS ^a		(Federal) NAAQS ^b	
		Standard	Attainment Status	Standard	Attainment Status
Ozone	1 hour	0.09 ppm	N	NA	See Note c
	8 hour	0.07 ppm	U ^d	0.075 ppm	N /Marginal
Carbon Monoxide (CO)	1 hour	20 ppm	A	35 ppm	A
	8 hour	9 ppm	A	9 ppm	A
Nitrogen Dioxide (NO ₂)	1 hour	0.18 ppm	A	NA	NA
	Annual	NA	NA	0.053 ppm	A
Sulfur Dioxide (SO ₂)	1 hour	0.25 ppm	A	NA	NA
	24 hour	0.04 ppm	A	0.14 ppm	A
	Annual	NA	NA	0.03 ppm	A
Particulate Matter (PM ₁₀)	24 hour	50 µg/m ³	N	150 µg/m ³	U
	Annual ^e	20 µg/m ³ ^f	N	50 µg/m ³	A
Fine Particulate Matter (PM _{2.5})	24 hour	NA	NA	35 µg/m ³	U
	Annual	12 µg/m ³	N	15 µg/m ³	A
Sulfates	24 hour	25 µg/m ³	A	NA	NA
Lead	30 day	1.5 µg/m ³	A	NA	NA
	Cal. Quarter	NA	NA	1.5 µg/m ³	A
Hydrogen Sulfide	1 hour	0.03 ppm	U	NA	NA
Visibility-Reducing Particles	8 hour	See Note g	A	NA	NA

NOTES: A = Attainment; **N** = Nonattainment; U = Unclassified; NA = Not Applicable, no applicable standard; = ppm = parts per million; µg/m³ = micrograms per cubic meter.

^a SAAQS = state ambient air quality standards (California). SAAQS for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All other state standards shown are values not to be equaled or exceeded.

^b NAAQS = national ambient air quality standards. NAAQS, other than ozone and particulates, and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The 8-hour ozone standard is attained when the three-year average of the fourth highest daily concentration is 0.08 ppm or less. The 24-hour PM₁₀ standard is attained when the three-year average of the 99th percentile of monitored concentrations is less than the standard. The 24-hour PM_{2.5} standard is attained when the three-year average of the 98th percentile is less than the standard.

^c The U.S. EPA revoked the national 1-hour ozone standard on June 15, 2005.

^d This state 8-hour ozone standard was approved in April 2005 and became effective in May 2006.

^e State standard = annual geometric mean; national standard = annual arithmetic mean.

^f In June 2002, The California Air Resources Board (ARB) established new annual standards for PM_{2.5} and PM₁₀.

^g Statewide visibility-reducing particle standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

SOURCE: California Air Resources Board (CARB) 2010. Ambient Air Quality Standards, (<http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>) Updated September 08, 2010.

Pursuant to the 1990 FCAA amendments, the USEPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutants, based on whether or not the NAAQS had been achieved. Table 4.2-2 shows the current attainment status of the Project Area vicinity.

The FCAA requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAA amendments added requirements for states containing areas that violate the NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has responsibility to review all state SIPs to determine if they conform to the mandates of the FCAA amendments and will achieve air quality goals when implemented. If the USEPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan (FIP) for the nonattainment area and may impose additional control measures. Failure to submit an approvable SIP or to implement the plan within mandated timeframes can result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

Regulation of Toxic Air Contaminants (TACs), termed Hazardous Air Pollutants (HAPs) under federal regulations, is achieved through federal, State and local controls on individual sources. The 1977 FCAA amendments required the USEPA to identify National Emission Standards for Hazardous Air Pollutants (NESHAPs) to protect public health and welfare. These substances include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. There is uncertainty in the precise degree of hazard.

State

The California Air Resources Board (CARB) manages air quality, regulates mobile emissions sources, and oversees the activities of county Air Pollution Control Districts and regional Air Quality Management Districts. CARB establishes state ambient air quality standards and vehicle emissions standards.

California has adopted ambient standards that are more stringent than the federal standards for the criteria air pollutants and include air quality standards for some pollutants for which there is no corresponding national standard. These are shown in Table 4.2-2. Under the California Clean Air Act (CCAA) patterned after the FCAA, areas have been designated as attainment or nonattainment with respect to the state standards. Table 4.2-2 summarizes the attainment status with California standards in the Project Area vicinity.

Toxic Air Contaminants

The Health and Safety Code defines TACs as air pollutants which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. The State Air Toxics Program was established in 1983 under Assembly Bill (AB)

1807 (Tanner). A total of 243 substances have been designated TACs under California law; they include the 189 (federal) HAPs adopted in accordance with AB 2728. The Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions. Toxic air contaminant emissions from individual facilities are quantified and prioritized. “High-priority” facilities are required to perform a health risk assessment and, if specific thresholds are violated, are required to communicate the results to the public in the form of notices and public meetings.

In August of 1998, CARB identified particulate emissions from diesel-fueled engines (diesel particulate matter, or DPM) as TACs. CARB subsequently developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB, 2000). The document represents proposals to reduce diesel particulate emissions, with the goal of reducing emissions and associated health risks by 75 percent in 2010 and by 85 percent in 2020. The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra low sulfur diesel fuel on diesel-fueled engines.

In April 2005, CARB published *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB, 2005b). This handbook is intended to give guidance to local governments in the siting of sensitive land uses, such as residences, schools, daycare centers, playgrounds, or medical facilities, near sources of air pollution. There are TAC sources predominantly associated with commercial and office uses located throughout the Project Area, including, for example, emergency diesel generators, gasoline dispensing facilities, and dry cleaning operations, in addition to freeways. Consistent with CARB guidance, the City of Oakland has adopted Standard Conditions of Approval (SCA 95, *Indoor Air Quality*, and SCA 96, *Air Pollution Buffering for Private Open Space*) that reduce the impact of TAC sources and sensitive receptors.

Regional

The regional agency primarily responsible for developing air quality plans for the Bay Area is the Bay Area Air Quality Management District (BAAQMD), the agency with permit authority over most types of stationary emission sources of air pollutants in the Bay Area.

Air Quality Plans

The 1977 FCAA amendments require that regional planning and air pollution control agencies prepare a regional *Air Quality Plan* to outline the measures by which both stationary and mobile sources of pollutants can be controlled in order to achieve all standards specified in the Clean Air Act. The 1988 CCAA also requires development of air quality plans and strategies to meet state air quality standards in areas designated as non-attainment (with the exception of areas designated as non-attainment for the state PM standards). Maintenance plans are required for attainment areas that had previously been designated non-attainment in order to ensure continued attainment of the standards. Air quality plans developed to meet federal requirements are referred to as *State Implementation Plans*.

Bay Area plans are prepared by the BAAQMD with the cooperation of the Metropolitan Transportation Commission (“MTC”) and the Association of Bay Area Governments (“ABAG”). Currently, there are three plans for the Bay Area. These are:

- The *Ozone Attainment Plan for the 1-Hour National Ozone Standard* (ABAG, 2001) developed to meet federal ozone air quality planning requirements
- The *Bay Area 2010 Clean Air Plan* (BAAQMD, 2010) developed to meet planning requirements related to the state ozone standard using a multi-pollutant approach; and
- The *1996 Carbon Monoxide Redesignation Request and Maintenance Plan for Ten Federal Planning Areas*, developed by the air districts with jurisdiction over the ten planning areas including the BAAQMD to ensure continued attainment of the federal carbon monoxide standard. In June 1998, the USEPA approved this plan and designated the ten areas as attainment. The maintenance plan was revised most recently in 2004 (CARB, 2004).

The Bay Area 2001 *Ozone Attainment Plan* was prepared as a proposed revision to the Bay Area part of California’s plan to achieve the national ozone standard. The Bay Area addresses all requirements of the national eight-hour standard in the 2010 Clean Air Plan.

For state air quality planning purposes, the Bay Area is classified as a serious non-attainment area for ozone. The “serious” classification triggers various plan submittal requirements and transportation performance standards. One such requirement is that the Bay Area update the *Clean Air Plan* (“CAP”) every three years to reflect progress in meeting the air quality standards and to incorporate new information regarding the feasibility of control measures and new emission inventory data. The Bay Area’s record of progress in implementing previous measures must also be reviewed. On September 15, 2010, the BAAQMD adopted the most recent revision to the CAP—the 2010 CAP. The goals of the 2010 CAP are:

- Update the Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement “all feasible measures” to reduce ozone;
- Consider the impacts of ozone control measures on PM10 and PM2.5, TACs, and GHGs, in a single, integrated plan;
- Review progress in improving air quality in recent years; and
- Establish emission control measures to be adopted or implemented in the 2009–2012 timeframe.

BAAQMD CEQA Guidelines

In December 1999, BAAQMD adopted its *CEQA Guidelines – Assessing the Air Quality Impacts of Projects and Plans*, as a guidance document to provide lead government agencies, consultants, and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. The *BAAQMD CEQA Guidelines* is an advisory document and local jurisdictions are not required to utilize the methodology outlined therein. The document describes the criteria that BAAQMD uses when

reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for use in determining whether projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. In November 2009, BAAQMD issued a draft update to its CEQA Air Quality Thresholds and Guidelines, as part of a planned update of BAAQMD's CEQA Guidelines, which were last updated in December 1999, as discussed above.

BAAQMD adopted new thresholds of significance (BAAQMD Thresholds) on June 2, 2010, to assist lead agencies in determining when potential air quality impacts would be considered significant under CEQA. BAAQMD also released new CEQA Guidelines in June 2010, which advise lead agencies on how to evaluate potential air quality impacts with the adopted new thresholds of significance. The analysis herein uses the thresholds from the BAAQMD Thresholds and the CEQA Guidelines to determine the Proposed Project's significance with respect to GHG emissions.

Local

City of Oakland General Plan

The OSCAR Element of the Oakland General Plan contains the following Air Quality objective and policies that would apply to the development facilitated by the Proposed Amendments (City of Oakland, 1996).

- *Objective CO-12: Air Resources:* To improve air quality in Oakland and the surrounding Bay Region.
- *Policy CO-12.1:* Promote land use patterns and densities which help improve regional air quality conditions by: (a) minimizing dependence on single passenger autos; (b) promoting projects which minimize quick auto starts and stops, such as live-work development, mixed use development, and office development with ground floor retail space; (c) separating land uses which are sensitive to pollution from the sources of air pollution; and (d) supporting telecommuting, flexible work hours, and behavioral changes which reduce the percentage of people in Oakland who must drive to work on a daily basis.
- *Policy CO-12.4:* Require that development projects be designed in a manner which reduces potential adverse air quality impacts. This may include: (a) the use of vegetation and landscaping to absorb carbon monoxide and to buffer sensitive receptors; (b) the use of low-polluting energy sources and energy conservation measures; and (c) designs which encourage transit use and facilitate bicycle and pedestrian travel.
- *Policy CO-12.6:* Require construction, demolition and grading practices which minimize dust emissions

City of Oakland Municipal Code

Per the City of Oakland Municipal Code, Title 15 Buildings and Construction, Chapter 15.36 Demolition Permits, 15.36.100 Dust Control Measures,

“Best Management Practices” shall be used throughout all phases of work, including suspension of work, to alleviate or prevent fugitive dust nuisance and the discharge of smoke or any other air contaminants into the atmosphere in such quantity as will violate any city or regional air pollution control rules, regulations, ordinances, or statutes. Water or dust palliatives or combinations of both shall be applied continuously and in sufficient quantity during the performance of work and at other times as required. Dust nuisance shall also be abated by cleaning and sweeping or other means as necessary. A dust control plan may be required as condition of permit issuance or at other times as may be deemed necessary to assure compliance with this section. Failure to control effectively or abate fugitive dust nuisance or the discharge of smoke or any other air contaminants into the atmosphere may result in suspension or revocation of the permit, in addition to any other applicable enforcement actions or remedies. (Ord. 12152 § 1, 1999) (City of Oakland, 2008a).

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

If the specific developments included in this program-level EIR are approved by the City, then all applicable Standard Conditions of Approval (SCA) for air quality would be adopted as conditions of approval and required of development facilitated by the Proposed Amendments to help ensure less-than-significant impacts. The SCA’s are incorporated and required as part of the development projects, so they are not listed as mitigation measures.

Where there are impacts associated with development facilitated by the Proposed Amendments that would result in significant environmental impacts despite implementation of the SCA, additional mitigation measures are recommended.

The City’s SCAs relevant to air quality impacts are shown below.

- **SCA 26: Dust Control**

Prior to issuance of a demolition, grading or building permit. During construction, the project applicant shall require the construction contractor to implement the following measures required as part of Bay Area Air Quality Management District’s (BAAQMD) “Basic” and “Enhanced” dust control procedures required for construction sites. These include, as applicable:

Basic (applies to all construction sites)

- a) Water all active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible.
- b) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
- c) Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- d) Sweep daily (with water sweepers using reclaimed water if possible) all paved access roads, parking areas and staging areas at construction sites.

- e) Sweep streets (with water sweepers using reclaimed water if possible) at the end of each day if visible soil material is carried onto adjacent paved roads.
- f) Limit the amount of the disturbed area at any one time, where feasible.
- g) Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 miles per hour.
- h) Pave all roadways, driveways, sidewalks, etc. as soon as feasible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- i) Replant vegetation in disturbed areas as quickly as feasible.
- j) Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).
- k) Limit traffic speeds on unpaved roads to 15 miles per hour.
- l) Clean off the tires or tracks of all trucks and equipment leaving any unpaved construction areas.

As SCA 26 is not restrictive, the following additional “Basic” controls shall apply:

- m) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- n) Post a publicly visible sign that includes the contractor’s name and telephone number to contact regarding dust complaints. When contacted, the contractor shall respond and take corrective action within 48 hours. The telephone numbers of contacts at the City and BAAQMD shall also be visible. This information may be posted on other required onsite signage.

Enhanced (All “Basic” Controls listed above, plus the following if the construction site is greater than four acres)

- a) All “Basic” controls listed above, plus:
- b) Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- c) Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for one month or more).
- d) Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the BAAQMD prior to the start of construction as well as posted on-site over the duration of construction.
- e) Install appropriate wind breaks at the construction site to minimize wind blown dust.

As SCA 26 is not restrictive, the following additional “Enhanced” controls and applicability criteria shall apply:

- f) *In addition to a construction site being greater than 4 acres*, “Enhanced” controls shall apply to construction projects involving 1) land uses that exceed the BAAQMD construction screening criteria (e.g., 240 or more multi-family residential units); 2) a demolition permit; 3) simultaneous occurrence of more than two construction phases (e.g., grading and building construction occurring simultaneously); or 4) extensive soil transport (i.e., 10,000 or more cubic yards of soil import/export).
- g) In addition to watering controls required *per Basic control “c” and Enhanced control “d”*, all exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
- h) Appropriate wind breaks (e.g., trees, fences) to be installed *per Basic control “e”* shall be installed on the windward side(s) of actively disturbed areas of the construction site to minimize wind blown dust. Wind breaks must have a maximum 50 percent air porosity.
- i) Vegetation to be replaced in disturbed areas as quickly as feasible *per Basic control “i”* shall be vegetative ground cover (e.g., fast-germinating native grass seed) and watered appropriately until vegetation is established.
- j) Suspend excavation, grading, and demolition activity when winds (instantaneous gusts) exceed average wind speeds of 20 miles per hour.
- k) The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- l) Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.

- **SCA 27: Construction Emissions**

Prior to issuance of a demolition, grading or building permit. To minimize construction equipment emissions during construction, the project applicant shall require the construction contractor to:

- a) Demonstrate compliance with Bay Area Air Quality Management District (BAAQMD) Regulation 2, Rule 1 (General Requirements) for all portable construction equipment subject to that rule. BAAQMD Regulation 2, Rule 1 provides the issuance of authorities to construct and permits to operate certain types of portable equipment used for construction purposes (e.g., gasoline or diesel-powered engines used in conjunction with power generation, pumps, compressors, and cranes) unless such equipment complies with all applicable requirements of the “CAPCOA” Portable Equipment Registration Rule” or with all applicable requirements of the Statewide Portable Equipment Registration Program. This exemption is provided in BAAQMD Rule 2-1-105.
- b) Perform low- NOx tune-ups on all diesel-powered construction equipment greater than 50 horsepower (no more than 30 days prior to the start of use of that equipment).

Periodic tune-ups (every 90 days) shall be performed for such equipment used continuously during the construction period.

As SCA 27 is not restrictive, the following supplemental conditions shall apply:

- c) The project applicant shall develop and submit to the City for approval a plan that demonstrates BAAQMD compliance *per SCA 27 condition "a"*.
 - d) In addition to low-NOx tune-ups to be conducted *per SCA 27 condition "b"*, all construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
 - e) All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM.
 - f) The project applicant shall develop and submit to the City for approval a plan that demonstrates all off-road equipment greater than 50 horsepower (including equipment that is owned or leased and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate matter (PM) reduction compared to the most recent California Air Resources Board (CARB) fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as they become available.
 - g) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations. Clear signage to this effect shall be provided for construction workers at all access points.
 - h) Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., BAAQMD Regulation 8, Rule 3: Architectural Coatings).
- **SCA 41: Asbestos Removal in Structures**

Prior to issuance of a demolition permit. If asbestos-containing materials (ACM) are found to be present in building materials to be removed, demolished and disposed, the Project Applicant shall submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health & Safety Code 25915-25919.7; and Bay Area Air Quality Management District, Regulation 11, Rule 2, as may be amended.
 - **SCA 95: Indoor Air Quality**

Prior to approval of Final Development Plan for each stage. In order to comply with the California Air Resources Board Air Quality and Land Use Handbook (June 2005) and achieve an acceptable interior air quality level for sensitive receptors, appropriate measures, shall be incorporated into project building design. The appropriate measures shall include one of the following methods:

1. The project applicant shall retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with the California Air Resources Board and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to stationary air quality pollutants prior to issuance of a demolition, grading, or building permit. The HRA shall be submitted to the Planning and Zoning Division for review and approval. The applicant shall implement the approved HRA recommendations, if any. If the HRA concludes that the air quality risks from nearby sources are at or below acceptable levels, then additional measures are not required.
2. The applicant shall implement the following features that have been found to reduce the air quality risk to sensitive receptors and shall be included in the project construction plans. These shall be submitted to the Planning and Zoning Division and the Building Services Division for review and approval prior to the issuance of a demolition, grading, or building permit and ongoing.
 - a. Do not locate sensitive receptors near distribution center's entry and exit points.
 - b. Do not locate sensitive receptors in the same building as a perchloroethylene dry cleaning facility.
 - c. Maintain a 50' buffer from a typical gas dispensing facility (under 3.6 million gallons of gas per year).
 - d. Install, operate and maintain in good working order a central heating and ventilation (HV) system or other air take system in the building, or in each individual residential unit, that meets the efficiency standard of the MERV 13. The HV system shall include the following features: Installation of a high efficiency filter and/or carbon filter to filter particulates and other chemical matter from entering the building. Either HEPA filters or ASHRAE 85% supply filters shall be used.
 - e. Retain a qualified HV consultant or HERS rater during the design phase of the project to locate the HV system based on exposure modeling from the mobile and/or stationary pollutant sources.
 - f. Maintain positive pressure within the building.
 - g. Achieve a performance standard of at least one air exchange per hour of fresh outside filtered air.
 - h. Achieve a performance standard of at least 4 air exchanges per hour of recirculation
 - i. Achieve a performance standard of .25 air exchanges per hour of in unfiltered infiltration if the building is not positively pressurized.
 - j. Project applicant shall maintain, repair and/or replace HV system or prepare an Operation and Maintenance Manual for the HV system and the filter. The manual shall include the operating instructions and maintenance and replacement schedule. This manual shall be included in the CC&R's for residential projects and distributed to the building maintenance staff. In addition, the applicant shall prepare a separate Homeowners Manual. The manual shall contain the operating instructions and maintenance and replacement schedule for the HV system and the filters. It shall also include a disclosure to the buyers of the air quality analysis findings.

- **SCA 96: Air Pollution Buffering for Private Open Space**

To the maximum extent practicable, individual and common exterior open space, including playgrounds, patios, and decks, shall either be shielded from the source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants.

In addition, the following SCAs located in other sections of this EIR would also serve to reduce VMT, thus reducing pollutant emissions:

- **SCA 25: Parking and Transportation Demand Management** (Chapter 4.12, *Transportation and Circulation*)

4.2.3 Impacts and Mitigation Measures

Significance Criteria

Development facilitated by the Proposed Amendments would have a significant plan-level air quality impact if it would²:

1. Fundamentally conflict with the Bay Area 2010 CAP because the projected rate of increase in vehicle miles traveled (VMT) or vehicle trips is greater than the projected rate of increase in population;
2. Fundamentally conflict with the CAP because the plan does not demonstrate reasonable efforts to implement control measures contained in the CAP;
3. Not include special overlay zones containing goals, policies, and objectives to minimize potential TAC impacts in areas located (a) near existing and planned sources of TACs and (b) within 500 feet of freeways and high-volume roadways containing 100,000 or more average daily vehicle trips;³ or
4. Not identify existing and planned sources of odors with policies to reduce potential odor impacts.

Approach to Analysis

The analysis of potential air quality impacts uses the Plan-level methodology identified by the BAAQMD, the regional agency primarily responsible for developing air quality plans for the Bay Area, including the City of Oakland. This methodology is outlined in the BAAQMD document *California Environmental Quality Act Air Quality Guidelines*. Because individual projects developed pursuant to adoption of the Proposed Amendments may most likely undergo separate environmental review under CEQA because sufficient details are not available for analysis, this Plan-level analysis does not analyze individual construction or operational emissions from these

² BAAQMD thresholds state that plan-level thresholds should be applied to long-range planning documents, such as general plans, redevelopment plans, specific plans, area plans, and community plans.

³ Pursuant to BAAQMD CEQA Guidelines (June 2010), the size of the overlay zones should be based upon the recommended buffer distances contained within the California Air Resources Board's (CARB's) 2005 Land Use Handbook.

development projects, consistent with BAAQMD's Air Quality Guidelines. The City has adopted the BAAQMD's Guidelines for its thresholds for significance.

Because this analysis utilizes the BAAQMD's Plan-level methodology, it is in essence a cumulative analysis as it takes into account population growth and VMT increases within the region as well as a planning-level analysis of existing and potential future TAC and odor impacts. Therefore, there is no separate cumulative analysis section with regard to air quality impacts.

Impacts

Consistency with the CAP

Impact AIR-1: Development facilitated by the Proposed Amendments would not fundamentally conflict with the Bay Area Clean Air Plan (CAP) because the projected rate of increase in vehicle miles traveled (VMT) or vehicle trips is not greater than the projected rate of increase in population. (Less than Significant)

The most recently adopted air quality plan in the San Francisco Bay Area Air Basin is the 2010 CAP. The 2010 CAP is a roadmap showing how the San Francisco Bay Area will achieve compliance with the state's one-hour ozone standard as expeditiously as practicable, and how the region will reduce transport of ozone and ozone precursors to neighboring air basins. The control strategy includes stationary-source control measures to be implemented through BAAQMD regulations; mobile-source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with the MTC, local governments, transit agencies, and others. The 2010 CAP also represents the Bay Area's most recent triennial assessment of the region's strategy to attain the state one-hour ozone standard. In this, the 2010 CAP replaces the 2005 Ozone Strategy.

Under BAAQMD's methodology, a determination of consistency with the most recently adopted CAP, currently the 2010 CAP, must demonstrate that a plan or project would not exceed the population or VMT assumptions contained in the CAP and that the project or plan implements transportation control measures ("TCMs") as applicable.

For a project to be consistent with the CAP, BAAQMD requires that the projected increase in VMT associated with a proposed project be less than the projected population increase. Because project vehicle trips would be distributed not just to Oakland, percentage increases of VMT and population are compared on a countywide basis because available VMT estimates are inventories on a countywide basis, not a citywide basis.

The MTC maintains an inventory of population VMT for the region and by county,⁴ the latest version of which was published in 2008. The population estimates of the MTC cite a 2035 Alameda county-wide population of 1,938,600. The Proposed Amendments will result in a

⁴ http://www.mtc.ca.gov/planning/2035_plan/Supplementary/T2035-Travel_Forecast_Data_Summary.pdf

population increase of 3,530 persons accounting for removal of existing residences as well as proposed residences. This represents a county-wide population increase of 0.18 percent.

Development facilitated by the Proposed Amendments would increase daily VMT in Alameda County by approximately 44,730 miles per day as calculated by the ACCMA Travel Demand Model used in the Transportation analysis. The MTC maintains an inventory of VMT for the region and by county.⁵ For 2035, MTC data shows VMT for Alameda County of 40,595,908 miles. The addition of project-related VMT to the 2035 forecast results for Alameda County in a total increase of 0.11 percent in the VMT for the development facilitated by the Proposed Amendments.

Consequently, the rate of increase in VMT (0.11 percent) would be less than the rate of increase in population (0.18 percent) for the development facilitated by the Proposed Amendments and would be considered consistent with the population and VMT assumptions of the CAP.

Although not included in the City's significance thresholds, BAAQMD recommends that growth that would occur from development facilitated by the Proposed Amendments be evaluated to determine if growth under the Proposed Amendments would exceed growth anticipated in the CAP. As discussed for Impact POP-3 in Section 4.11, *Population, Housing, and Employment*, of this Draft EIR, the growth of households and population due to the Proposed Amendments would account for about three percent of total population growth projected for Oakland between 2010 and 2035, as projected by ABAG *Projections 2007*, which also drive the growth projections factored into the CAP (see Table 4.11-11 in Section 4.11). When compared to *total* population anticipated in Oakland in 2035, the Proposed Amendments would have contributed less than one percent (0.7 percent).

Thus, the Proposed Amendments would not result in "substantial" population growth in comparison to the amount of population growth and the total population anticipated for Oakland in the future.

Mitigation: None Required.

Consistency with Implementation Measures of the CAP

Impact AIR-2: Development facilitated by the Proposed Amendments would not fundamentally conflict with the CAP because the plan demonstrates reasonable efforts to implement control measures contained in the CAP. (Less than Significant)

The 1988 California Clean Air Act, Section 40919(d) requires regions to implement "transportation control measures to substantially reduce the rate of increase in passenger vehicle trips and miles traveled." Consistent with this requirement, one of the goals of the 2010 CAP is to reduce the number of trips and vehicle miles Bay Area residents travel in single-occupant vehicles through the implementation of five categories of TCMs. **Table 4.2-3** identifies those five

⁵ http://www.mtc.ca.gov/planning/2035_plan/Supplementary/T2035-Travel_Forecast_Data_Summary.pdf

**TABLE 4.2-3
TRANSPORTATION CONTROL MEASURES IN THE 2010 CLEAN AIR PLAN**

-
- | | |
|----|--|
| 1. | Improve Transit Services (TCM A)+ |
| 2. | Improve System Efficiency (TCM B) |
| 3. | Encourage Sustainable Travel Behavior (i.e., voluntary employer-based trip reduction program)(TCM C) |
| 4. | Support Focused Growth (Bicycle and Pedestrian friendliness) (TCM D) |
| 5. | Implement Pricing Strategies (TCM E) |
-

categories of TCMs that local governments should implement through local plans to be considered in conformance with the 2010 CAP. A review of the TCM's in Table 4.2-3 indicates that these measures lend themselves to application to large scale land use development projects and would be addressed by City of Oakland SCA 25, *Parking and Transportation Demand Management*, which would apply to all development projects under the Proposed Amendments which would consist of 50 or more new residential units or 50,000 square feet or more of new non-residential space.

Specifically, SCA 25 would require an applicant for such projects to submit for review and approval by the Planning and Zoning Division a Transportation Demand Management (TDM) plan containing strategies to reduce onsite parking demand and single occupancy vehicle travel. The applicant shall implement the approved TDM plan. The TDM plan shall include strategies to increase bicycle, pedestrian, transit, and carpools/vanpool use. All four primary modes of travel shall be considered. Strategies to consider include the following:

- a. Inclusion of additional bicycle parking, shower, and locker facilities that exceed the requirement
- b. Construction of bike lanes per the Bicycle Master Plan; Priority Bikeway Projects
- c. Signage and striping onsite to encourage bike safety
- d. Installation of safety elements per the Pedestrian Master Plan (such as cross walk striping, curb ramps, count-down signals, bulb outs, etc.) to encourage convenient crossing at arterials
- e. Installation of amenities such as lighting, street trees, trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan.
- f. Direct transit sales or subsidized transit passes
- g. Guaranteed ride home program
- h. Pre-tax commuter benefits (checks)
- i. Onsite car-sharing program (such as City Car Share, Zip Car, etc.)
- j. Onsite carpooling program
- k. Distribution of information concerning alternative transportation options
- l. Parking spaces sold/leased separately
- m. Parking management strategies; including attendant/valet parking and shared parking spaces

Because the requirements of SCA 25 would implement transportation control measures consistent with the 2010 CAP, development facilitated by the Proposed Amendments would not be considered to fundamentally conflict with the 2010 CAP and would be considered to have a less-than-significant air quality impact with regard to TCM implementation.

Mitigation: None Required.

Toxic Air Contaminants

Impact AIR-3: Development facilitated by the Proposed Amendments could include residential developments that expose occupants to substantial health risk from diesel particulate matter (DPM) from mobile and stationary sources. Although compliance with City's Standard Conditions of Approval would provide that a site specific health risk assessment (HRA) be prepared, and that would reduce exposures to DPM sources to less than significant, there is no assurance that exposure to gaseous TACs could be reduced to a less-than-significant level at every site. (Significant)

BAAQMD provides two public source inventories of TAC emissions sources within its jurisdiction. The first is its TAC Annual Report, the most recent of which was published in 2007 and identifies several TAC sources in the Project Area. The second source is its recently released (May 2010) Google Earth-based inventory of stationary source risks and hazards. This latter source indicates approximately 50 permitted TAC and PM2.5 sources in the Project Area. These sources are predominantly associated with commercial and office uses in the area, such as emergency diesel generators, gasoline dispensing facilities, boilers and dry cleaning operations. The increased cancer risk values for these sources can vary from less than 0.01 in one million up to 177 in one million, depending on the source.

In some cases, CARB makes recommendations for specific buffer zones around certain types of TAC emitters of particular concern, as is the case for dry cleaners (500 feet) and chrome platers (1,000 feet). The BAAQMD Guidelines recommend special overlay zones containing goals, policies, and objectives to minimize potential TAC impacts in areas located within 1,000 feet of existing and planned TAC sources. Some residential development areas within the Project Area are within areas of concern from the TAC emissions from one or more of the stationary TAC sources.

Many of the development projects that could be facilitated by the Proposed Amendments could locate new residences or other sensitive receptors within the Project Area and potentially near existing TAC sources. **Figure 4.2-1** shows the distribution of TAC sources in the Project Area. The Project Area contains portions of I-880, is adjacent to portions of I-980, and is near active rail lines in Jack London Square. While high-volume roadways exist throughout the Project Area, data from the transportation analysis indicates that none of the other major roadways in the area (e.g., Webster and Posey Tubes, San Pablo Avenue) will have volumes approaching 100,000 vehicles per day. Also, no rail yards, trucking distribution facilities or major port activities – major TAC emission sources that exist primarily in other areas of the City - are located in close



SOURCE: BAAQMD, 2011

Proposed Amendments to the Central District Urban Renewal Plan . 210505.01

Figure 4.2-1
Sources of Toxic Air Contaminants

proximity to the Project Area. Sources of stationary sources of gaseous TAC emissions exist throughout the Project Area and primarily include auto body shops and dry cleaners (City of Oakland, 2010).

The City's SCA 95, *Indoor Air Quality*, will apply to residential development located near sources of PM_{2.5} and DPM and within 1,000 feet of stationary sources of TACs. In accordance with the BAAQMD Guidelines, when a residential development project is proposed within 1,000 feet of a stationary TAC source, the potential health risk to the project residents would be evaluated using BAAQMD's recommended screening criteria. If the project exceeds the screening criteria a project-specific health risk assessment (HRA) would be prepared to quantify the project-specific health risk; this requirement is incorporated in SCA 95. Developments facilitated by the Proposed Amendments would be required to implement any project-specific recommendations to reduce the potential health risk. Compliance with SCA 95 specifically would reduce the potential impact of DPM from mobile and stationary sources to less than significant.

Because of the variety of exposure conditions local to each source, and because exposure to gaseous TACs cannot be reduced through the use of filters (unlike exposure to particulate TACs addressed in SCA 95 that may), compliance with SCA 95, that requires preparation and implementation of an HRA, would not necessarily assure that exposure to gaseous TACs could be reduced to a less-than-significant level at every site. Consequently, even with adherence to SCA 95, certain developments facilitated by the Proposed Amendments could have significant impacts with respect to exposure to gaseous TACs in the Project Area. The impact would be significant and unavoidable because no measures or techniques are available to reduce the impact of gaseous TACs on sensitive receptors with respect to those developments.

Mitigation: None Available.

Significance after Mitigation: Significant and Unavoidable.

Impact AIR-4: Development facilitated by the Proposed Amendments could include residential developments that expose occupants to sources of substantial and frequent odors affecting a substantial number of people and would be guided by City policies to reduce potential odor impacts. (Significant)

BAAQMD provides examples of the types of land uses that are potential odor sources, which include wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries and chemical plants. Certain engines, including diesel-powered engines used for construction, can also generate objectionable odors. Development facilitated by the Proposed Amendments would not include these types of land uses. In accordance with the recommendations in the BAAQMD Guidelines, the City mapped known odor sources. Most of the Project Area is located within the BAAQMD-recommended one-mile buffer zone of food processing sources located in and near the southern portion of the Project Area, and within the BAAQMD-recommended one-mile buffer zone of greenwaste/recycling

facilities located southwest of the Project Area. The westernmost portion of the Project Area is within the BAAQMD-recommended two-mile buffer zone of the EBMUD Waste Treatment Facility located in West Oakland (Oakland, 2010). Odor buffer areas are considered a maximum screening distance from a particular source, and, as indicated in the setting discussion, the actual severity and area of impact would depend on factors such as the nature, frequency and intensity of the source; wind speed and direction; and the sensitivity of receptors.

BAAQMD requires that a plan document include policies to reduce potential odor impacts in the Project Area. Overall, the Proposed Amendments address time extensions and tax increment revenue caps for the Redevelopment Plan, which includes objectives for redevelopment projects and programs within the Project Area. While the Redevelopment Plan does not address specific land use policies, such those to reduce potential odor impacts, it specifies that predominant land uses be consistent with the Oakland General Plan and the Oakland Planning Code, and includes objectives and actions that emphasize land use compatibility for redevelopment in the Project Area.

Considering the program-level environmental impacts regarding odors, the City has identified and mapped odor sources, and development facilitated by the Proposed Amendments would be guided by City plans and policies that emphasize land use compatibility, including minimizing odor impacts. However, because there are no feasible mitigation measures to reduce the impact of siting receptors near odor sources except for increasing the distance between the receptor and the source, and because housing development sites are within the BAAQMD-recommended odor buffer with no room to increase the buffer distance, the City conservatively assumes that this may result in a significant and unavoidable impact.

Mitigation: None Available.

Significance after Mitigation: Significant and Unavoidable.

4.2.4 References

Association of Bay Area Governments (ABAG), Bay Area Air Quality Management District (BAAQMD), Metropolitan Transportation Commission (MTC), *Revised San Francisco Bay Area Ozone Attainment Plan for the 1-Hour National Ozone Standard*, October 2001.

Bay Area Air Quality Management District (BAAQMD), *BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plan*, December 1999.

BAAQMD, *Bay Area 2005 Ozone Strategy: Volume I – Final Adopted*, January 4, 2006.

BAAQMD, *Ambient Air Quality Standards and Bay Area Attainment Status*, http://www.baaqmd.gov/pln/air_quality/ambient_air_quality.htm, page updated May 29, 2008, accessed November 15, 2008a.

BAAQMD, *Screening Tables for Air Toxics Evaluation During Construction*, May 2010a.

- BAAQMD, *California Environmental Quality Act Air Quality Guidelines*, June 2010b.
- BAAQMD, *Adopted Air Quality CEQA Thresholds of Significance*, June 2010c.
- BCDC, *See* San Francisco Bay Conservation and Development Commission.
- California Air Resources Board (CARB), *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, October 2000.
- CARB, *2004 Revision to the California State Implementation Plan for Carbon Monoxide – Updated Maintenance Plan for Ten Federal Planning Areas*, July 2004.
- CARB, *ARB Fact Sheet: Air Pollution Sources, Effects and Control*,
<http://www.arb.ca.gov/research/health/fs/fs2/fs2.htm>, page last updated December 2005a.
- CARB, *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005b.
- CARB, *Ambient Air Quality Standards*, available at
<http://www.arb.ca.gov/research/aaqs/aaqs2.pdf> Standards last updated June 26, 2008a.
- CARB, *Summaries of Air Quality Data*, 2004, 2005, 2007; <http://www.arb.ca.gov/adam/cgi-bin/db2www/adamtop4b.d2w/start>, accessed November 16, 2008b.
- CARB, *Climate Change Draft Proposed Scoping Plan*, June 2008c.
- CARB, *Climate Change Proposed Scoping Plan*, October 2008d.
- Cayan, D., et al, *Scenarios of Climate Change in California: An Overview* (White Paper, CEC-500-2005-203-SF), Sacramento, CA. February, 2006.
- City of Oakland, *Open Space, Conservation and Recreation (OSCAR), An Element of the Oakland General Plan*, June 1996.
- City of Oakland. Resolution Approving Preliminary Planning Targets For Development of the Draft Oakland Energy And Climate Action Plan. June 23, 2009.
<http://clerkwebsvr1.oaklandnet.com/detailreport/matter.aspx?key=17204>.
- City of Oakland. *2007-2014 Housing Element EIR*, Section 3.3, Air Quality. August 2010.
- Dockery, D. W., and Pope, C.A., III, *Health Effects of Fine Particulate Air Pollution: Lines that Connect*, Journal Air & Waste Management Association, pp. 709–742, June 2006.
- DWR, *See* California Department of Water Resources.
- International Code Council (ICC), *Draft 2010 California Green Building Standards Code*,
<http://www.documents.dgs.ca.gov/bsc/documents/2010/Draft-2010-CALGreenCode.pdf>,
accessed August 18, 2010.
- Natural Resources Defense Council, *Climate Facts, California Takes on Power Plant Emissions*,
http://www.solutionsforglobalwarming.org/docs/SB1368_FS_FINAL.pdf, accessed
August 17, 2010, document dated August 2007.
- OPR, *See* Governor’s Office of Planning and Research.

San Francisco Bay Conservation and Development Commission (BCDC), Draft Staff Report, *Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline*, 2009 http://www.bcdc.ca.gov/proposed_bay_plan/bp_1-08_cc_draft.pdf.

Tholen, Greg, BAAQMD, Air Quality Planner, e-mail communication to Chris Sanchez of ESA May 14, 2010.

U.S. Supreme Court, *Massachusetts et. al. v. EPA et. al* (No. 05-1120, 415F 3d 50), April 2, 2007.

4.3 Biological Resources

This section identifies the existing biological resources within the Project Area and identifies the federal, state, and local regulations pertaining to biological resources within the region. It also identifies any potentially significant biological resource impacts and, if necessary, appropriate mitigation measures or Standard Conditions of Approval to reduce project-related potentially significant impacts. Information used in the preparation of this section was obtained from existing documents pertaining to plant and wildlife species found in the project vicinity, the California Natural Diversity Database (CDFG, 2010), California Native Plant Society (CNPS) Electronic Inventory (CNPS, 2010), U.S. Fish and Wildlife Service (USFWS) *Official List of Federal Endangered and Threatened Species* (USFWS, 2010), and standard biological literature.

4.3.1 Environmental Setting

Regional Setting

The Project Area is located in the Bay Area-Delta Bioregion, as defined by the State's Natural Communities Conservation Program. This bioregion extends from the Sacramento and San Joaquin Valley Bioregions to the Pacific Coast (California Environmental Resources Evaluation System [CERES], 2007). The climate is Mediterranean with relatively mild, wet winters and warm, dry summers. This bioregion is drained by rivers including the Russian, Gualala, Napa, Petaluma, and Alameda and Putah Creeks. These watersheds support a variety of habitats such as open water, salt and brackish marshes, chaparral, and oak woodlands, which are host to a variety of threatened or endangered wildlife and sensitive plants, including California red-legged frog (*Rana aurora*), California clapper rail (*Rallus longirostris obsoletus*) and black rail (*Laterallus jamaicensis coturniculus*), salt-marsh harvest mouse (*Reithrodontomys raviventris*), and Alameda whipsnake (*Masticophis lateralis euryxanthus*).

The Project Area is located within the central portion of the San Francisco Estuary, which is designated as Western Hemisphere Shorebird Reserve Network of international importance. More than one million shorebirds use regional wetlands each winter, between 300,000 and 900,000 shorebirds pass through San Francisco Bay during spring and fall migration periods, more than 50 percent of the diving ducks in the Pacific Flyway winter in the shallow wetlands of the bay, and several species breed in regional wetlands during the summer (Goals Project, 1999). More than 90 percent of historic wetlands in San Francisco Bay have been lost or altered and 94 percent of tidal marshes have been destroyed in the central San Francisco Bay Region (Goals Project, 1999). The high diversity of vegetation and wildlife found in Alameda County, which reflects that of the region as a whole, is a result of soils, topographic, and micro-climate diversity that combine to promote relatively high levels of endemism.¹ This, in combination with the rapid pace of development in the region, has resulted in a relatively high degree of endangerment for local flora and fauna.

¹ *Endemism* refers to the degree to which organisms or taxa are restricted to a geographical region or locality and are thus individually characterized as endemic to that area.

Project Setting

The Project Area is largely developed and includes the entirety of downtown Oakland and portions of the western shore of Lake Merritt, the northern shore of the Oakland Inner Harbor and the Lake Merritt Channel. The Lake Merritt Channel tidally connects Lake Merritt with the Oakland Inner Harbor. A mix of roadways, parks, mixed-use development, residential, industrial and commercial buildings occupy the Project Area.

Historically, the Project Area was part of a more extensive tidal estuary flowing from Lake Merritt to what is now the Oakland Inner Harbor (SFEI, 1997). The uplands included a mix of coastal prairie, coastal scrub, and riparian habitats.

Habitat Types within the Project Area

The two main habitat types found within the Project Area are urban and landscape. Tidal and open water habitat within the Oakland Inner Harbor and Lake Merritt Channel are also located within the Project Area boundary. Descriptions of the various habitat types occurring within the Project Area are presented below.

Urban

The Project Area is predominantly developed and occurs in a highly urbanized context. Urban, developed areas, dominated by roads, structures, concrete, and asphalt, provide little wildlife habitat and essentially no habitat for plants other than opportunistic weedy species adapted to harsh conditions or the horticultural plants used in landscaped areas (see discussion below). Wildlife species utilizing urban areas must be able to tolerate the presence of humans and their activities and are typically generalists, capable of utilizing the limited food sources available, such as garbage and horticultural plants and their fruit. Urban wildlife species in the Oakland area include common raven (*Corvus corax*), crow (*Corvus corone*), northern mockingbird (*Mimus polyglottos*), raccoon (*Procyon lotor*), Norway rat (*Rattus norvegicus*), and Virginia opossum (*Didelphis virginiana*). Landscaped plants in particular are attracting more white-tailed deer (*Odocoileus virginianus*). Several exceptions to the generalist rule are red-tailed hawks (*Buteo jamaicensis*), which prey on rodents and birds often found in urban parks, and Cooper's hawks (*Accipiter cooperi*) and peregrine falcons (*Falco peregrinus anatum*), which prey almost exclusively on small to medium sized birds. Peregrine falcons have been observed within the Project Area roosting on Oakland City Hall and the California State Building (Lowe, 2010) and just outside the project boundary on the Kaiser Center building (Nevill, 2007). Although this species is known to use tall buildings and bridges in highly urbanized areas for nesting, there are no known peregrine nesting sites in downtown Oakland (CDFG, 2010).

Landscaped

Habitat provided by landscaped areas occurs within the various parks, recreation facilities and greenbelts within the Project Area. Parks include Lincoln Park and Recreation Center, Lafayette Park, Jefferson Park, Malonga Casquelord-Peralta Park, Harrison Square, Frank Ogawa Plaza, Uptown Park and Estuary Park including the Jack London Aquatic Center. There are also

additional greenways buffering Lake Merritt, the Lake Merritt Channel, Snow Park, Madison and the Oakland Inner Harbor. Street trees within the Project Area also provide some marginal foraging, roosting and, potentially, nesting habitat for common urban adapted birds.

Landscaped areas and planted trees can typically provide cover, foraging, and nesting habitat for a variety of bird species, especially those that are tolerant of disturbance and human presence. Birds commonly found in such areas include the non-native English sparrow (*Passer domesticus*), house finch (*Carpodacus mexicanus*), dark-eyed junco (*Junco hyemalis*), western scrub jay (*Aphelocoma californica*), and Anna's hummingbird (*Calypte anna*). Landscaped areas bordering forested areas and creeks inner city attract white-tailed deer which attract predators like mountain lions (*Felis concolor*) and coyotes (*Canis latrans*).

Wetlands and Aquatic Habitat

There are three areas of wetlands and/or aquatic habitats within the Project Area; Lake Merritt, Lake Merritt Channel, and the Oakland Inner Harbor.

Lake Merritt and Lake Merritt Channel

Lake Merritt is affected by twice daily tidal flows through the Lake Merritt Channel and receives water from 60 storm drain outfalls around the lake. Salinity of the waters varies throughout the year according to the volume of freshwater input but the Lake and Channel are basically brackish. The banks of Lake Merritt are confined with concrete retaining walls and therefore provide no substrate for wetland vegetation. The Channel is a relatively discrete and shallow tidal channel that has been heavily modified. The portion of the Channel within the Project Area is bound on the west by Peralta Park and on the East by the Oakland Unified School District and Dewey High School.

The open waters of Lake Merritt support primarily marine fish species common to the San Francisco Estuary (Pham, 2001). The lake also serves as the spawning and hatching grounds for various aquatic life that provides a major food source for the Bay region inhabitants, as well as providing a food source for the terns that nest at the Alameda Naval Air Station. The species composition within the waters are expected to vary by season and regularly changing physical conditions created by variation in freshwater flow from the creeks and other freshwater sources into the Lake. Fish species actually documented as occurring within the Glen Echo Creek watershed, which includes Lake Merritt, are goldfish (*Carassius auratus*), western mosquitofish (*Gambusia affinis*), and three-spine stickleback (*Gasterosteus aculeatus*) (Leidy, 2007). Leidy also notes the potential for Chinook salmon (*Oncorhynchus tshawytscha*) in the watershed but presence is apparently not confirmed. The benthic invertebrate community of Lake Merritt is expected to be composed of various annelids, mysid shrimp, copepods, amphipods, shrimp, crabs and other macroinvertebrates, similar to those that occur in San Francisco Bay. All of these organisms provide important food sources for the fish and bird species that use Lake Merritt. Lake Merritt Channel, although shallower than the Lake, provides a vital linkage for these aquatic species between the Lake and Estuary. The channel has the potential to support many of the same species that the Lake supports.

Lake Merritt provides habitat for a diversity of bird species and many of these species may also utilize the Channel and parks adjacent to the Lake and Channel. Black-crowned night herons (*Nycticorax nycticorax*) and egrets (*Egretta thula*, *Ardea alba*) nest on protected islands within Lake Merritt. A large colony of Canada geese (*Branta canadensis*) forage in the turfgrass buffering the Lake and also utilize the Lake's island habitat. Numerous water birds forage in the open waters of the lake and species such as eared and pied-billed grebes (*Podiceps nigricollis*, *Podilymbus podiceps*) are common. Brown pelicans (*Pelecanus occidentalis californicus*), double-crested cormorants (*Phalacrocorax auritus*) and numerous duck species, including bufflehead (*Bucephala albeola*) and scaup (*Aythya marila*, *A. affinis*) also frequent the aquatic habitat provided by the Lake. Trees in Lakeside Park, outside of and adjacent to the project boundary, have been documented as supporting nesting Cooper's hawks and red-tailed hawk also likely nest in trees there. Undoubtedly many common passerine birds nest there as well.

Oakland Inner Harbor

The open water areas offshore of Estuary Park provide habitat for marine vegetation including patches of sea lettuce (*Ulva sp.*), brown alga (*Porphyra sp.*), and red alga (*Faucheia sp.*) covering pilings and breakwater structures up to the Mean Low Water (MLW) level.² The shoreline itself is lined with rock rip-rap and contains little to no vegetation.

Pilings and riprap within the open water of the Inner Harbor may provide a substrate for typical invertebrates of hard-bottom substrate habitat such as the bay mussel (*Mytilus trossulus*), blue mussel (*Mytilus galloprovincialis*), asian mussel (*Musculista senhousia*), barnacle (*Amphibalanus amphitrite*) and white acorn barnacle (*Balanus glandula*) (Schaeffer, McGourty, and Cosentino-Manning, 2007). Common fish species that may be found in this area include prickly sculpin (*Cottus asper*) and surfperches (family Embiotocidae).

The open waters of San Francisco Bay provide habitat for large numbers of birds that migrate along the Pacific Flyway. Most of these birds use offshore Bay waters for resting, feeding, and wintering areas. The Oakland Estuary and associated waterfront are used by water and shorebirds such as mallard duck (*Anas platyrhynchos*), California gull (*Larus californicus*), brown pelican, western grebe (*Aechmophorus occidentalis*), cormorant, black-crowned night heron and egrets.

Marine mammals associated with the aquatic habitat in both the Oakland Estuary and San Francisco Bay include the harbor seal (*Phoca vitulina*) and the California sea lion (*Zalophus californianus*). Both species can be found foraging close to the shoreline and marina structures, and may be present at certain times in the Oakland Inner Harbor.

Sensitive Natural Communities

Sensitive natural communities are designated as such by various resource agencies, such as California Department of Fish and Game (CDFG), or in local policies and regulations and are generally considered to have important functions or values for wildlife or humans and/or are recognized as declining in extent or distribution and are considered threatened enough to warrant

² Mean Low Water (MLW) level refers to the average low tidal levels for the previous 19 years.

some sort of protection. For example, many local agencies in California consider protection of oak woodlands important and federal, state, and most local agencies also consider wetlands and riparian habitat as sensitive communities. The California Natural Diversity Database (CNDDDB) tracks communities it believes to be of conservation concern and these communities are typically considered sensitive for the purposes of CEQA analysis.

The CNDDDB lists one sensitive natural community as occurring in the vicinity of the Project Area: northern coastal salt marsh. The Project Area has been extensively developed and modified and northern coastal salt marsh, along with other sensitive natural communities is absent from the Project Area.

Jurisdictional Waters and Wetlands

No formal wetland delineation of the Project Area has been conducted. However, the open water areas of Lake Merritt, the Lake Merritt Channel, and the Oakland Inner Harbor would be considered “other waters” under the Clean Water Act within the Project Area³. The Channel edges may contain some wetland vegetation and may be considered wetlands instead of “other waters.” Although these aquatic areas lie within the project boundary, the development facilitated by the Proposed Amendments are not expected to result in direct impacts to these areas.

Special-status Species

A number of species known to occur in the project vicinity are protected pursuant to federal and/or State of California endangered species laws, or have been designated Species of Special Concern by CDFG. In addition, Section 15380(b) of the California Environmental Quality Act (CEQA) Guidelines provides a definition of rare, endangered, or threatened species that are not included in any listing.⁴ Species recognized under these terms are collectively referred to as “special-status species.” For the purposes of this EIR, special-status species include:

- Plant and wildlife species listed as rare, threatened or endangered under the federal or state endangered species acts;
- Species that are candidates for listing under either federal or state law;
- Species formerly designated by the USFWS as Species of Concern or designated by CDFG as Species of Special Concern;
- Species protected by the federal Migratory Bird Treaty Act (16 U.S.C. 703-711); and/or
- Species such as candidate species that may be considered rare or endangered pursuant to Section 15380(b) of the CEQA Guidelines.

³ “Other waters of the U.S.” refers to additional features that are regulated by the Clean Water Act but are not wetlands (33 CFR 328.4). Please refer to pages 4.3-14 through 4.3-16 for a detailed definition of wetlands and other waters.

⁴ For example, vascular plants listed as rare or endangered or as List 1 or 2 by the California Native Plant Society (CNPS) are considered subject to Section 15380(b).

Appendix D provides comprehensive lists of the special-status species that have been documented from, or have potential to occur in suitable habitat within, the Study Area. These lists include occurrences documented by the CNDDDB (CDFG, 2010), the CNPS Electronic Inventory (CNPS, 2010), and the USFWS database (USFWS, 2010). Based on review of the biological literature of the region, information presented in previous environmental documentation, and an evaluation of the habitat conditions of the Project Area, many of these species were eliminated from further evaluation because (1) the Project Area does not and/or never has provided suitable habitat for the species, or (2) the known range for a particular species is outside of the Project Area.

The remaining special-status species presented in **Table 4.3-1** includes those that are documented as occurring within the Project Area or for which potential habitat (i.e., general habitat types) occurs within the Project Area. Species for which generally suitable habitat occurs but that were nonetheless determined to have low potential to occur in the Project Area are also listed in Table 4.3-1. This table also provides the rationale for each potential-to-occur determination. Species observed or with a moderate to high potential to occur in the Project Area are discussed in further detail below.

Special-Status Animals

Eighteen special-status wildlife species were identified in Table 4.3-1 as having potential for occurrence within the Project Area. Please refer to Table 4.3-1 for a summary of each species' habitat preferences and the rationale for our determinations with regard to potential for occurrence within the Project Area.

Of the special-status plants and animals presented in Table 4.3-1, only the following 10 species, which have been observed or determined to have a moderate to high potential to occur within the Project Area. These species, therefore, are evaluated in the impact analysis:

- Peregrine falcon
- California brown pelican
- Cooper's hawk
- Red-shouldered hawk
- Red-tailed hawk
- Double-crested cormorant
- Pallid bat
- Silver-haired bat
- Hoary bat
- Big free-tailed bat

These species are described in further detail below.

Peregrine falcon (*Falco peregrinus anatum*). The peregrine falcon is a federal and State-Delisted Endangered Species⁵ and a California Fully Protected Species. It is known throughout California and is a year-around resident along the Pacific coast. The peregrine is a specialist, preying primarily on mid-sized birds, such as pigeons and doves, in flight. Occasionally these birds will take insects and bats. Although typical nesting sites for the species are tall cliffs, preferably over or near water, peregrines are also known to use urban sites (Peeters, 2005), including the

⁵ The peregrine falcon was listed as federally endangered on June 2, 1970, and then federally delisted on August 25, 1999. This species was also listed as state endangered on June 27, 1971, and then state delisted on November 4, 2009.

**TABLE 4.3-1
SPECIAL-STATUS SPECIES CONSIDERED**

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFG/CNPS	General Habitat	Potential for Occurrence in Project Area
Species Listed and Proposed for Listing			
ANIMALS			
Birds			
Peregrine falcon <i>Falco peregrinus anatum</i>	Delisted FE/ Delisted CE/ Fully Protected	Nests on ledges on cliffs, bridges, and tall buildings. In SF Bay area the species is known to nest on the Bay Bridge and buildings in San Francisco and San Jose.	High. This species has been observed foraging and roosting at multiple sites within downtown Oakland (Lowe, 2010; Nevill, 2007; CDFG, 2010). However, there are no known nesting sites for this species in Oakland (CDFG, 2010). The tall buildings within the Project Area provide potentially suitable nesting habitat for this species.
California brown pelican <i>Pelecanus occidentalis californicus</i>	Delisted FE/ Delisted CE/	Nests on islands, seeks cover on islands, mudflats, beaches, wharves.	High. Known to forage and roost on Lake Merritt. The Inner Harbor contains suitable foraging and roosting habitat for this species. Suitable nesting habitat is absent from the Project Area.
Fish			
Tidewater goby <i>Eucyclogobius newberryi</i>	FE/CSC	Shallow waters of bays and estuaries.	Low. Reported as present in Lake Merritt in the late 1990's (CNNDDB, 2010). However, thought to be extirpated because of water quality degradation (City of Oakland, 2006). 2010 shows an increase of this species on the rise.
Central California coast coho salmon <i>Oncorhynchus kisutch</i>	FE/CE	Occurs between central California and Alaska. Spawns in small streams with silt-free gravel substrates and cool shaded water.	Low. San Francisco Bay is not included in this species evolutionarily significant unit (ESU). No suitable habitat is present in the Project Area.
Central California coast steelhead <i>Oncorhynchus mykiss</i>	FT/CSC	Spawns and rears in coastal streams between the Russian River and Aptos Creek, as well as drainages tributary to San Francisco Bay, where gravelly substrate and shaded riparian habitat occurs.	Low. Migrates through San Francisco Estuary. Individuals may occasionally stray into Lake Merritt. However, no suitable breeding habitat remains in the area.
Sacramento winter-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	FE/CE	Spawns and rears in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occurs.	Low. Migrates through San Francisco Estuary and individuals may occasionally stray into the Oakland Inner Harbor and Lake Merritt. However, no suitable breeding habitat remains in the area.
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	FT/CT	Spawns and rears in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occurs.	Low. Migrates through San Francisco Estuary and individuals may occasionally stray into the Oakland Inner Harbor and Lake Merritt. However, no suitable breeding habitat remains in the area.
Additional Special-Status Species			
ANIMALS			
Invertebrates			
Mimic tryonia (=California brackishwater snail) <i>Tryonia imitator</i>	FSC/--	Inhabits permanently submerged areas in coastal lagoons, estuaries, and salt marshes, from Sonoma County south to San Diego County.	Low. Historical collection from vicinity of Lake Merritt (collection date unknown). This species is presumed extirpated from Lake Merritt (CDFG, 2010).

TABLE 4.3-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFG/CNPS	General Habitat	Potential for Occurrence in Project Area
Additional Special-Status Species (cont.)			
ANIMALS (cont.)			
Fish			
Central Valley fall/late fall-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	FSC/CSC	Spawns and rears in Sacramento River and tributaries where gravelly substrate and shaded riparian habitat occurs.	Low. Migrates through San Francisco Estuary and individuals may occasionally stray into the Oakland Inner Harbor and Lake Merritt. However, no suitable breeding habitat remains in the area.
Birds			
Cooper's hawk <i>Accipiter cooperii</i>	--/CSC	Commonly nests in conifers and riparian woodland but also known to nest in large trees in urban areas throughout the East Bay, especially near riparian corridors.	High. Known to nest within Lakeside Park, which is adjacent to the project boundary (CDFG, 2010). May forage or nest within the Project Area.
Red-shouldered hawk <i>Buteo lineatus</i>	--/3503.5	Commonly nests in riparian corridors but becoming increasingly common in urban areas throughout the East Bay, nesting in large trees.	High. Fairly common locally in urban areas. May nest within wooded areas of Peralta Park or other parks in the Project Area.
Red-tailed hawk <i>Buteo jamaicensis</i>	--/3503.5	Nests in large oaks and conifers. The Bay Area's most common urban raptor.	High. Known to occur in downtown Oakland. May nest within tall trees in the various parks within the Project Area.
Northern harrier <i>Circus cyaneus</i>	--/CSC	Nests on ground primarily in emergent vegetation, wet meadows, or near rivers and lakes, but may nest in grasslands away from water.	Low. May occasionally forage within the project but no suitable nesting habitat is present within the Project Area.
Double-crested cormorant <i>Phalacrocorax auritus</i>	--/CDFG WL	Nests along coast on isolated islands or in trees along lake margins.	High. Known to forage and roost at Lake Merritt. Suitable roosting and nesting habitat is present within trees adjacent to Lake Merritt.
Mammals			
Pallid bat <i>Antrozous pallidus</i>	FSC/CSC	Occurs in various habitats including grasslands, scrubs, woodlands, mixed conifer forests, but it is most common in open, dry habitats with rocky areas for roosting. Day roosts include hollow trees, buildings, caves, crevices, and mines.	Moderate to High. Suitable roosting habitat occurs within the parks within the Project Area and foraging habitat is present over park turfgrass and Lake Merritt. May forage and roost within Project Area but not expected to breed there.
Silver-haired bat <i>Lasionycteris noctivagans</i>	FSC/ WBWG_M	Roost almost exclusively in trees – in natural hollows and bird excavated cavities or under loose bark of large diameter snags.	Moderate to High. Suitable roosting habitat occurs within the parks within the Project Area and foraging habitat is present over park turfgrass and Lake Merritt. May forage and roost within Project Area but not expected to breed there.
Hoary bat <i>Lasiurus cinereus</i>	--/WBWG_M	Prefers open habitats or habitat mosaics, with trees for cover and open areas or habitat edges for feeding. Prefers to roost in dense foliage of medium to large trees.	Moderate to High. Suitable roosting habitat occurs within the parks within the Project Area and foraging habitat is present over park turfgrass and Lake Merritt. May forage and roost within Project Area but not expected to breed there.

TABLE 4.3-1 (Continued)
SPECIAL-STATUS SPECIES CONSIDERED

Common Name <i>Scientific Name</i>	Listing Status USFWS/ CDFG/CNPS	General Habitat	Potential for Occurrence in Project Area
Additional Special-Status Species (cont.)			
ANIMALS (cont.)			
Mammals (cont.)			
Big free-tailed bat <i>Nyctinomops macrotis</i>	--/CSC	Found in habitats such as desert shrub, woodlands, and evergreen forests. Mostly roosts in cliff crevices, but documented in buildings, caves, and tree cavities.	Moderate to High. Suitable roosting habitat occurs within the parks in the Project Area and foraging habitat is present over park turfgrass and Lake Merritt. May forage and roost within Project Area but not expected to breed there.

STATUS CODES:FEDERAL: (U.S. Fish and Wildlife Service)

FE = Listed as Endangered (in danger of extinction) by the Federal Government.

FT = Listed as Threatened (likely to become Endangered within the foreseeable future) by the Federal Government.

FP = Proposed for Listing as Endangered or Threatened.

FC = Candidate to become a *proposed* species.

FSC = former Federal Species of Concern. Species so designated as such were listed by the Sacramento FWS office until 2006 but Sacramento FWS no longer maintains this list. These species are still considered to be at-risk by other federal and state agencies, as well as various organizations with recognized expertise such as the Audubon Society.

STATE: (California Department of Fish and Game)

CE = Listed as Endangered by the State of California

CT = Listed as Threatened by the State of California

CSC = California Species of Special Concern

3503.5=Protection for nesting species of Falconiformes (hawks) and Strigiformes (owls) under section 3503.5 CDFG code.

Fully Protected = California Department of Fish and Game Fully Protected Species

CDFG WL = on CDFG watch list for "Taxa to Watch"

WBWB_M = on the Western Bat Working Group (WBWG) "Medium Priority" list. This designation, made by the WBWG, indicates a level of concern that should warrant closer evaluation, more research, and conservation actions of both the species and possible threats.

Delisted = Species that were formally federally or state listed as endangered or threatened species.

SOURCES: CDFG, 2010; USFWS, 2010

Bay Bridge and tall buildings in San Francisco and San Jose. Nesting peregrines were also recently documented from the Fruitvale Avenue Bridge on the Oakland-Alameda border, approximately three miles southeast of the Project Area; one breeding pair was observed at this site in 2010 (G. Nevill, 2010). No peregrine nesting sites are documented in downtown Oakland but the species has been observed perching and roosting on several buildings in downtown Oakland including Kaiser Center, Oakland City Hall, and the California State building (G. Nevill, 2007; Lowe, 2010). Many of the tall buildings and structures within the Project Area provide potential nesting habitat for this species. The abundance of prey and suitable perching habitat provide highly suitable habitat for peregrine falcons.

Brown pelican (*Pelecanus occidentalis*). The brown pelican is a federal and State-Delisted Endangered Species and a California Fully Protected Species. It is a regular summer and fall migrant to San Francisco Bay and, in some years, these birds can be found in the Bay year-round. However, these birds are colonial breeders that favor rocky islands along the southern California

coast to Mexico and, historically, only rarely north as far as Point Lobos (Cogswell, 1977). Brown pelicans have been observed foraging and roosting at Lake Merritt. Although they are not expected to nest within the Project Area, they may roost on piers or pilings or forage in the open water.

Cooper's hawk (*Accipiter cooperi*). Cooper's hawks are protected under section 3503.5 of CDFG code (nesting Falconiformes). Cooper's hawk ranges over most of North America and may be seen throughout California, most commonly as a winter migrant. Nesting pairs have declined throughout the lower-elevation, more populated parts of the state. Cooper's hawk forages in open woodlands and wooded margins and nests in tall trees, often in riparian areas (Ehrlich et al., 1988; Sibley, 2001). A pair of nesting Cooper's hawks were also documented in Lakeside Park, adjacent to and northeast of the project boundary, in 2003 (CDFG, 2010). This species may forage or nest within Peralta Park or other parks with dense trees.

Red-tailed hawk (*Buteo jamaicensis*). Red-tailed hawks are protected under section 3503.5 of CDFG code (nesting Falconiformes). They are commonly found in woodlands and open country with scattered trees. These large hawks feed primarily on small mammals, but will also prey on other small vertebrates, such as snakes and lizards, as well as on small birds and invertebrates. Red-tailed hawks nest in a variety of trees in urban, woodland, and agricultural habitats. Large trees located within parks such as Peralta Park potentially provide suitable nesting habitat for red-tailed hawks.

Red-shouldered hawk (*Buteo lineatus*). Red-shouldered hawks are protected under section 3503.5 of CDFG code (nesting Falconiformes). They are relatively common in both rural and urban situations and can be found in residential neighborhoods and along riparian corridors or other waterbodies. These hawks hunt primarily for mammals, reptiles, and amphibians (Sibley, 2000). Large trees within the Project Area, particularly those within parks, provide potential nesting habitat for red-shouldered hawks.

Double-crested cormorant (*Phalacrocorax auritus*). The double-crested cormorant is on the California Department of Fish and Game Watch List. This species is the only one of the three cormorants occurring in California that occurs on freshwater and is the most common cormorant in San Francisco Bay. The species feeds on a variety of fish and some crustaceans. These birds are colonial breeders, building stick nests or platforms in trees inland and using rocky ledges along the coast (Cogswell, 1977). Double-crested cormorants nest locally on the Richmond San Rafael Bridge, at Lake Merced in San Francisco (CDFG, 2010). Since the work on the Richmond San Rafael and the Carquinez bridges commenced, this species developed a nesting colony on the Lake Merritt Bird Islands and forages at Lake Merritt since suitable habitat is present within the Project Area (City of Oakland, 2011).

Mammals

Special status bat species. The Project Area provides potential foraging and roosting habitat for four special-status bat species, all of which have been documented within the project vicinity.

Pallid bat (*Antrozous pallidus*) ranges throughout western North America, from British Columbia to Mexico and east to Texas. This species is most abundant in arid lands, including deserts and canyonlands, shrub-steppe grasslands, and higher elevation coniferous forests and is therefore only likely to occur within the Project Area on a transient basis during spring and summer migrations. Pallid bats may roost alone or in groups in trees in cavities or under bark and structures such as bridges and buildings. Pallid bats forage over open areas and are opportunistic feeders on a wide variety of insects, foraging both on surfaces and in the air. Prey includes beetles, centipedes, crickets, moths, and rarely, lizards, and small rodents (WBWG, 2005a).

Silver-haired bat (*Lasionycteris noctivagans*) occurs throughout most of North America and is primarily associated with conifer and mixed conifer/hardwood forests. This species would most likely be found in the Project Area during winter and seasonal migrations. Silver-haired bats roost almost exclusively in cavities and under the bark of tree, although they are sometimes found in structures as well. Moths are apparently the primary prey for this species, although they have been documented as feeding on a wide variety of insects. Seasonal records suggest considerable north to south migration, with animals moving to warmer, more southern climates in the winter (WBWG, 2005b).

The **hoary bat** (*Lasiurus cinereus*) is the most widespread of all North American bats. This species ranges from Canada to South America and is primarily associated with forested habitats. Hoary bats are solitary and roost primarily in foliage of both coniferous and deciduous trees, often at the edge of a clearing. The species is highly migratory but neither wintering sites nor migratory routes are well documented. Hoary bats reportedly have a strong preference for moths, but are also known to eat beetles, flies, grasshoppers, termites, dragonflies, and wasps (WBWG, 2005c).

The **big free-tailed bat** (*Nyctinomops macrotis*) ranges from South America to the southwestern United States. This species is found in a variety of habitats including desert shrub, woodlands, and evergreen forests. It mostly roosts in cliff crevices, but has been documented in buildings, caves, and tree cavities (WBWG, 2005d). This species may occur within the Project Area as a seasonal migrant. These four bat species may utilize trees or abandoned buildings for roosting and turfgrass for foraging in any of the parks within the Project Area during migratory periods but are not expected to breed and reproduce there.

Special-Status Plants

No special-status plant species are expected to occur within the Project Area. Although a number of special-status plant species are identified in Appendix D as occurring within the project vicinity, there are no intact native communities remaining within the Project Area. If any native communities are found near a specific habitat where it may have an impact on a host species, it shall be surveyed by a qualified biologist to verify the need for removal (e.g., Pickleweed (*Salicornia virginica*) which is found on the shore area of Lake Merritt). In addition, distribution of a number of these species is restricted to specific habitat types or soils that are not, and/or never were, present within the Project Area, such as vernal pools or serpentine soils. Many plant

species presented in Appendix D are considered by CNPS (2010) to be extirpated from the Project Area due to a long-standing history of disturbance within the Project Area.

4.3.2 Regulatory Setting

This section briefly describes federal, state, and local regulations, permits, and policies pertaining to biological resources and wetlands as they apply to development facilitated by the Proposed Amendments.

Special-Status Species

Federal Endangered Species Act

The USFWS, which has jurisdiction over plants, wildlife, and most freshwater fish, and the National Marine Fisheries Service (NMFS), which has jurisdiction over anadromous fish, marine fish, and mammals, oversee implementation of the Federal Endangered Species Act (FESA). Section 7 of the FESA mandates that all federal agencies consult with the USFWS and NMFS to ensure that federal agency actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species. A federal agency is required to consult with USFWS and NMFS if it determines a “may affect” situation will occur in association with a proposed project. The FESA prohibits the “take”⁶ of any fish or wildlife species listed as threatened or endangered, including the destruction of habitat that could hinder species recovery.

Under Section 9 of the FESA, the take prohibition applies only to wildlife and fish species. However, Section 9 does prohibit the removal, possession, damage, or destruction of any endangered plant from federal land. Section 9 also prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in non-federal areas in knowing violation of any state law or in the course of criminal trespass. Candidate species and species that are proposed, or under petition for listing, receive no protection under Section 9 of the FESA.

Section 10 of the FESA requires the issuance of an “incidental take” permit before any public or private action may be taken that would potentially harm, harass, injure, kill, capture, collect, or otherwise hurt (i.e., take) any individual of an endangered or threatened species. To offset the take of individuals that may occur incidental to implementation of a proposed project, the permit requires preparation and implementation of a habitat conservation plan that provides for the overall preservation of the affected species through specific mitigation measures.

⁶ “Take,” as defined in Section 9 of the FESA, is broadly defined to include intentional or accidental “harassment” or “harm” to wildlife. “Harass” is further defined by the U.S. Fish and Wildlife Service as an intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns that include, but are not limited to, breeding, feeding, and sheltering. “Harm” is defined as an act that actually kills or injures wildlife. This may include significant habitat modification or degradation that actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (16 USC, Section 703, Supplement I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

Federal Essential Fish Habitat

The Sustainable Fisheries Act of 1996 (Public Law 104-297), amended the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) to establish new requirements for Essential Fish Habitat (EFH) descriptions in federal Fisheries Management Plans (FMPs) and to require federal agencies to consult with the NMFS on activities that may adversely affect EFH. The Magnuson-Stevens Act requires all fishery management councils to amend their FMPs to describe and identify EFH for each managed fishery. The act also requires consultation for all federal agency actions that may adversely affect EFH (i.e., direct versus indirect effects); it does not distinguish between actions in EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside of EFH, such as upstream and upslope activities that may have an adverse effect on EFH. Therefore, EFH consultation with NMFS is required by federal agencies undertaking, permitting, or funding activities that may adversely affect EFH, regardless of the activity's location. Under section 305(b)(4) of the Magnuson-Stevens Act, NMFS is required to provide EFH conservation and enhancement recommendations to federal and state agencies for actions that adversely affect EFH. However, state agencies and private parties are not required to consult with NMFS unless state or private actions require a federal permit or receive federal funding. Although the concept of EFH is similar to that of critical habitat under the FESA, measures recommended to protect EFH by NMFS are advisory, not proscriptive.

Federal Marine Mammal Protection Act

The Secretary of Commerce (represented by NMFS) and the Secretary of the Interior (represented by the USFWS) have joint responsibility in protecting marine mammals under the Marine Mammal Protection Act (50 CFR 216). The NMFS is responsible for cetaceans and pinnipeds (other than walrus), and USFWS is responsible for all other marine mammals, including sea otter, walrus, polar bear, dugong and manatee. The Marine Mammal Protection Act (MMPA) established a moratorium on the taking of marine mammals in U.S. waters. It defines "take" to mean "to hunt, harass, capture, or kill" any marine mammal or attempt to do so. Exceptions to the moratorium can be made through permitting actions for take incidental to commercial fishing and other non-fishing activities, for scientific research, and for public display at licensed institutions.

California Endangered Species Act

Under the California Endangered Species Act (CESA), CDFG has the responsibility for maintaining a list of threatened and endangered species (California Fish and Game Code Section 2070). CDFG also maintains a list of "candidate species," which are species formally noticed as being under review for addition to either the list of endangered species or the list of

threatened species. In addition, CDFG maintains lists of “species of special concern,” which serve as “watch lists.” Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present on the project site and determine whether the proposed project could have a potentially significant impact on such species. In addition, CDFG encourages informal consultation on any proposed project that may affect a candidate species.

California Native Plant Protection Act

State listing of plant species began in 1977 with the passage of the California Native Plant Protection Act (NPPA), which directed CDFG to carry out the legislature’s intent to “preserve, protect, and enhance endangered plants in this state.” The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants. The California Endangered Species Act (CESA) expanded upon the original NPPA and enhanced legal protection for plants. The CESA established threatened and endangered species categories, and grandfathered all rare animals—but not rare plants—into the act as threatened species. Thus, there are three listing categories for plants in California: rare, threatened, and endangered.

California Fish and Game Code

Under Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.3 of the California Fish and Game Code prohibits take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs.

The California Fish and Game Code (Sections 3511-birds, 4700-mammals, 5050-reptiles and amphibians, and 5515-fish) also allows the designation of a species as Fully Protected. This designation provides a greater level of protection than is afforded by the CESA, since it means the designated species cannot be taken at any time.

Sensitive Natural Communities

Sensitive natural communities are identified as such by CDFG’s Natural Heritage Division and include those that are naturally rare and those whose extent has been greatly diminished through changes in land use. The CNDDB tracks 135 such natural communities in the same way that it tracks occurrences of special-status species: information is maintained on each site’s location, extent, habitat quality, level of disturbance, and current protection measures. CDFG is mandated to seek the long-term perpetuation of the areas in which these communities occur. While there is no statewide law that requires protection of all special-status natural communities, CEQA requires consideration of a project’s potential impacts on biological resources of statewide or regional significance.

Jurisdictional Waters (Including Wetlands)

Definitions

Waters of the United States

The term “waters of the United States,” as defined in the Code of Federal Regulations (33 CFR § 328.3[a]; 40 CFR § 230.3[s]), refers to:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters:
 - which are or could be used by interstate or foreign travelers for recreational or other purposes; or
 - from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
 - which are used or could be used for industrial purposes by industries in interstate commerce.
4. All impoundments of waters otherwise defined as waters of the United States under the definition;
5. Tributaries of waters identified in paragraphs (1) through (4);
6. Territorial seas; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6).
8. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA (33 CFR 328.3[a][8]).

Wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. The importance of wetlands has increased due to their value as recharge areas and filters for water supplies and to their widespread filling and destruction to enable urban and agricultural development. Examples of wetlands may include freshwater marsh, seasonal wetlands, and vernal pool complexes that are adjacent to waters of the U.S. In a jurisdictional sense, there are two commonly used wetland definitions, one adopted by the USEPA and U.S. Army Corps of Engineers (Corps) and a separate definition, originally developed by USFWS, which has been adopted by agencies in the State of California that have regulatory authority over wetlands. Both definitions are presented below.

Federal Wetland Definition

Under federal law, wetlands are a subset of “waters of the United States” and receive protection under Section 404 of the Clean Water Act (CWA). Wetlands are defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration that are sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetland determination under the federal wetland definition adopted by the Corps requires the presence of three factors: (1) wetland hydrology; (2) plants adapted to wet conditions; and (3) soils that are routinely wet or flooded [33 C.F.R. § 328.3(b)]. In January 2001, the Supreme Court of the United States ruled that certain isolated wetlands do not fall under the jurisdiction of the CWA (*Solid Waste Agency of Northwestern Cook County v. United States Army Corps of Engineers et al.*).

California Wetland Definition

The CDFG and the California Coastal Commission (CCC) have adopted the USFWS Cowardin (1979) definition of wetlands. While the federal definition of wetlands requires three wetland identification parameters to be met, the Cowardin definition can be satisfied under some circumstances with the presence of only one parameter. Thus, identification of wetlands by State agencies may include areas that are permanently or periodically inundated or saturated and without wetland vegetation or soils, such as rocky shores, or areas that presume wetland hydrology based on the presence of at least one of the following: a) a seasonal or perennial dominance by hydrophytes⁷ or b) the presence of hydric⁸ soils. CDFG does not normally assert jurisdiction over wetlands unless they are subject to Streambed Alteration Agreements (CDFG Code Sections 1600–1616) or they support state-listed endangered species.

Other Waters of the U.S.

“Other waters of the U.S.” refers to additional features that are regulated by the CWA but are not wetlands (33 CFR 328.4). To be considered jurisdictional, these features must exhibit a defined bed and bank and an ordinary high water mark. The term ordinary high water mark refers to a line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other means appropriate to the characteristics of the surrounding areas. Examples of other waters of the U.S. include rivers, creeks, ponds, and lakes.

U.S. Army Corps of Engineers and U.S. Environmental Protection Agency Regulations

The Corps and the USEPA regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the CWA. Projects that would result in the placement of dredged or fill material into waters of the United States require a Section 404

⁷ A *hydrophyte* is, literally, a water loving plant, i.e., one that is adapted to growing in conditions where the soil lacks oxygen, at least periodically during the year, due to saturation with water.

⁸ A *hydric* soil is one that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile.

permit from the Corps. Some classes of fill activities may be authorized under General or Nationwide permits if specific conditions are met. Nationwide permits do not authorize activities that are likely to jeopardize the existence of a threatened or endangered species (listed or proposed for listing under the FESA). In addition to conditions outlined under each Nationwide Permit, project-specific conditions may be required by the Corps as part of the Section 404 permitting process. When a project's activities do not meet the conditions for a Nationwide Permit, an Individual Permit may be issued.

Section 401 of the CWA requires an applicant for a Corps permit to obtain state certification that the activity associated with the permit will comply with applicable state effluent limitations and water quality standards. In California, water quality certification, or a waiver, must be obtained from the Regional Water Quality Control Board (RWQCB) for both Individual and Nationwide Permits.

The Corps also regulates activities in navigable waters under Section 10 of the Rivers and Harbors Act. The construction of structures, such as tidegates, bridges, or piers, or work that could interfere with navigation, including dredging or stream channelization, may require a Section 10 permit, in addition to a Section 404 permit if the activity involves the discharge of fill.

Finally, the federal government also supports a policy of minimizing "the destruction, loss, or degradation of wetlands." Executive Order 11990 (May 24, 1977) requires that each federal agency take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

In recent years several Supreme Court cases have challenged the scope and extent of the Corps' jurisdiction over waters of the United States and have led to several reinterpretations of that authority. The most recent of these decisions are the case of *Solid Waste Agency of Northern Cook County (SWANCC) v. the Army Corps of Engineers* (January 9, 2001) and *Rapanos v. United States* (June, 2006). The SWANCC decision found that jurisdiction over non-navigable, isolated, intrastate waters could not be based solely on the use of such waters by migratory birds. The reasoning behind the SWANCC decision could be extended to suggest that waters need a demonstrable connection with a 'navigable water' to be protected under the CWA. The introduction of the term isolated has led to the consideration of the relative connectivity between waters and wetlands as a jurisdictionally relevant factor. The more recent Rapanos case further questioned the definition of "waters of the United States" and the scope of federal regulatory jurisdiction over such waters but resulted in a split decision which did not provide definitive answers but expanded on the concept that a 'significant nexus' with traditional navigable waters was needed for certain waters to be considered jurisdictional.

On June 5, 2007 the USEPA and the Corps released guidance on CWA jurisdiction in response to the Rapanos Supreme Court decisions, which can be used to support a finding of CWA coverage for a particular water body when either a) there is a significant nexus between the stream or wetland in question and navigable waters in the traditional sense; or b) a relatively permanent water body is hydrologically connected to traditional navigable waters and/or a wetland has a surface connection with that water. According to this guidance the Corps and the USEPA will

take jurisdiction over the following waters: 1) Traditional navigable waters, which are defined as all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; 2) Wetlands adjacent to traditional navigable waters; including adjacent wetlands that do not have a continuous surface connection to traditional navigable waters; 3) Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and 4) Wetlands adjacent to non-navigable tributaries as defined above; that have a continuous surface connection to such tributaries (e.g., they are not separated by uplands, a berm, dike, or similar feature).

The USEPA and the Corps decide jurisdiction over the following waters based on a fact-specific analysis to determine if there is a significant nexus, as defined below, to a traditional navigable water: a) Non-navigable tributaries that are not relatively permanent; b) Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and c) wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

The USEPA and the Corps *generally* do not assert jurisdiction over: 1) swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow) or 2) ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The USEPA and the Corps have defined the significant nexus standard as follows:

1. A significant nexus analysis assesses the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters;
2. Significant nexus analysis includes consideration of hydrologic and ecologic factors including: a) volume, duration, and frequency of flow, including consideration of certain physical characteristics of the tributary; b) proximity to a traditional navigable water; c) size of the watershed; d) average annual rainfall; e) average annual winter snow pack; f) potential of tributaries to carry pollutants and flood waters to traditional navigable waters; g) provision of aquatic habitat that supports a traditional navigable water; h) potential of wetlands to trap and filter pollutants or store flood waters; and i) maintenance of water quality in traditional navigable waters.

State Policies and Regulations

State regulation of activities in waters and wetlands resides primarily with CDFG and the State Water Resources Control Board (SWRCB). In addition, the CCC has review authority for wetland permits within its planning jurisdiction. CDFG provides comment on Corps permit actions under the Fish and Wildlife Coordination Act. CDFG is also authorized under the California Fish and Game Code, Sections 1600–1616, to enter into a Streambed Alteration Agreement with applicants and to develop mitigation measures when a proposed project would obstruct the flow or alter the bed, channel, or bank of a river or stream in which there is a fish or

wildlife resource, including intermittent and ephemeral streams. The SWRCB, acting through the nine RWQCBs, must certify that a Corps permit action meets state water quality objectives (Section 401, Clean Water Act).

Bay Conservation and Development Commission (BCDC) Regulations

The Bay Conservation and Development Commission (BCDC) is authorized by the McAteer - Petris Act to analyze, plan, and regulate San Francisco Bay and its shoreline. BCDC implements the San Francisco Bay Plan and regulates filling and dredging in the bay, its sloughs and marshes, and certain creeks and their tributaries. BCDC jurisdiction includes the waters of San Francisco Bay as well as a shoreline band that extends inland 100 feet from the high tide line. Any fill, excavation of material, or substantial change in use within BCDC jurisdiction requires a permit from BCDC.

Local

City of Oakland General Plan

The OSCAR Element of the City of Oakland General Plan was adopted in 1996. OSCAR policies pertaining to natural resources with potential relevance to implementation of the development facilitated by the Proposed Amendments include the following:

- *Policy CO-6.1:* Protect Oakland's remaining natural creek segments by retaining creek vegetation, maintaining creek setbacks, and controlling bank erosion. Design future flood control projects to preserve the natural character of creeks and incorporate provisions for public access, including trails, where feasible. Strongly discourage projects which bury creeks or divert them into concrete channels.
- *Policy CO-7.1:* Protect native plant communities, especially oak woodlands, redwood forests, native perennial grasslands, and riparian woodlands, from the potential adverse impacts of development. Manage development in a way which prevents or mitigates adverse impacts to these communities.
- *Policy CO-7.4:* Discourage the removal of large trees on already developed sites unless removal is required for biological, public safety, or public works reasons.
- *Policy CO-8.1:* Work with federal, state, and regional agencies on an ongoing basis to determine mitigation measures for development which could potentially impact wetlands. Strongly discourage development with unmitigatable adverse impacts.
- *Policy CO-9.1:* Protect rare, endangered, and threatened species by conserving and enhancing their habitat and requiring mitigation of potential adverse impacts when development occurs within habitat areas.
- *Policy CO-11.1:* Protect wildlife from the hazards of urbanization, including loss of habitat and predation by domestic animals.
- *Policy CO-11.2:* Protect and enhance migratory corridors for wildlife. Where such corridors are privately owned, require new development to retain native habitat or take other measures which help sustain local wildlife population and migratory patterns.

The following policy is from the LUTE:

- Policy W3.3: Native plant communities, wildlife habitats, and sensitive habitats should be protected and enhanced.

City of Oakland Tree Ordinance

City of Oakland Tree Preservation and Removal Ordinance (Oakland Municipal Code [OMC] Chapter 12.36) prohibits removal of protected trees under certain circumstances. Factors to be considered in determining significance include:

The number, type, size, location and condition of (a) the protected trees to be removed and/or impacted by construction and (b) the protected trees to remain, with special consideration given to native trees.⁹

Protected trees include the following:

Quercus agrifolia (California or coast live oak) measuring four inches diameter at breast height (dbh) or larger, and any other tree measuring nine inches dbh or larger except *Eucalyptus* and *Pinus radiata* (Monterey pine); provided, however, that Monterey pine trees on City property and in development-related situations where more than five Monterey pine trees per acre are proposed to be removed are considered to be Protected trees.

City of Oakland Creek Ordinance

Title 13, Chapter 13.16, City of Oakland Creek Protection, Storm Water Management, and Discharge Control Ordinance, provides a high level of protection for creeks within Oakland's city limits. The ordinance defines a creek as "...a watercourse that is a naturally occurring swale or depression, or engineered channel that carries fresh or estuarine water either seasonally or year-around." In addition, under the ordinance definition, a creek channel must be hydrologically connected to a waterway above or below a project site, and the channel must exhibit a defined bed and bank. A creek protection permit is required whenever work is to be undertaken on a creekside property. The ordinance prohibits, among other things, the discharge of concentrated stormwater or other modification of the natural flow of water in a watercourse, development within a watercourse or within 20 feet from the top of the bank, and the deposition or removal of any material within a watercourse without a permit. Depending on the type of activity being permitted, conditions of approval may include the submittal of a creek protection plan and/or a hydrology report, revegetation with native plant species, the use of soil bioengineering techniques for bank stabilization and erosion control, and implementation of stormwater quality protection measures. The following activities, among others, are typically not permitted:

- Removal of riparian vegetation;
- Culverting or undergrounding of a creek;
- Moving the location of a creek;

⁹ Oakland Planning Code section 17.158.280E2 states that "Development related" tree removal permits are exempt from CEQA if no single tree to be removed has a dbh of 36 inches or greater **and** the cumulative trunk area of all trees to be removed does not exceed 0.1 percent of the total lot area.

- Structures spanning a creek; and/or
- Riprap, rock gabions, or concrete within the bed or on the creek banks.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

The SCA relevant to the biological resources that could be significantly impacted by development facilitated by the Proposed Amendments are listed below. If the Proposed Amendments are approved by the City, then all applicable SCAs would be adopted as conditions of approval and required of development facilitated by the Proposed Amendments to help ensure less-than-significant impacts to biological resources. The SCAs are incorporated and required as part of development facilitated by the Proposed Amendments, so they are not listed as mitigation measures.

- **SCA 44: Tree Removal During Breeding Season**

Prior to issuance of a tree removal permit. To the extent feasible, removal of any tree and/or other vegetation suitable for nesting of raptors and/or any federally protected migratory bird species shall not occur during the breeding season of March 15 and August 15. If tree removal must occur during the breeding season, all sites shall be surveyed by a qualified biologist to verify the presence or absence of nesting raptors or other birds. Pre-removal surveys shall be conducted within 15 days prior to start of work from March 15 through May 31, and within 30 days prior to the start of work from June 1 through August 15. The pre-removal surveys shall be submitted to the Planning and Zoning Division and the Tree Services Division of the Public Works Agency. If the survey indicates the potential presences of nesting raptors or other birds, the biologist shall determine an appropriately sized buffer around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the CDFG, and will be based to a large extent on the nesting species and its sensitivity to disturbance. In general, buffer sizes of 200 feet for raptors and 50 feet for other birds should suffice to prevent disturbance to birds nesting in the urban environment, but these buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.

- **SCA 45: Tree Removal Permit**

Prior to issuance of a demolition, grading, or building permit. Prior to removal of any protected trees, per the Protected Tree Ordinance, located on the Project Site or in the public right-of-way adjacent to the project, the project applicant must secure a tree removal permit from the Tree Division of the Public Works Agency, and abide by the conditions of that permit.

- **SCA 46: Tree Replacement Plantings**

Prior to issuance of a final inspection of the building permit. Replacement plantings shall be required for erosion control, groundwater replenishment, visual screening and wildlife habitat, and in order to prevent excessive loss of shade, in accordance with the following criteria:

- 1) No tree replacement shall be required for the removal of nonnative species, for the removal of trees which is required for the benefit of remaining trees, or where insufficient planting area exists for a mature tree of the species being considered.

- 2) Replacement tree species shall consist of *Sequoia sempervirens* (Coast Redwood), *Quercus agrifolia* (Coast Live Oak), *Arbutus menziesii* (Madrone), *Aesculus californica* (California Buckeye) or *Umbellularia californica* (California Bay Laurel) or other tree species acceptable to the Tree Services Division. Replacement trees shall be at least of twenty-four (24) inch box size, unless a smaller size is recommended by the arborist, except that three fifteen (15) gallon size trees may be substituted for each twenty-four (24) inch box size tree where appropriate.
 - 3) Minimum planting areas must be available on site as follows:
 - For *Sequoia sempervirens*, three hundred fifteen square feet per tree;
 - For all other species listed in #2 above, seven hundred (700) square feet per tree.
 - 4) In the event that replacement trees are required but cannot be planted due to site constraints, an in lieu fee as determined by the master fee schedule of the city may be substituted for required replacement plantings, with all such revenues applied toward tree planting in city parks, streets and medians.
 - 5) Plantings shall be installed prior to the issuance of a final inspection of the building permit, subject to seasonal constraints, and shall be maintained by the project applicant until established. The Tree Reviewer of the Tree Division of the Public Works Agency may require a landscape plan showing the replacement planting and the method of irrigation. Any replacement planting which fails to become established within one year of planting shall be replanted at the project applicant's expense.
- **SCA 47: Tree Protection during Construction.**

Prior to issuance of a demolition, grading, or building permit. Adequate protection shall be provided during the construction period for any trees which are to remain standing, including the following, plus any recommendations of an arborist:

 - 1) Before the start of any clearing, excavation, construction or other work on the site, every protected tree deemed to be potentially endangered by said site work shall be securely fenced off at a distance from the base of the tree to be determined by the City Tree Reviewer. Such fences shall remain in place for duration of all such work. All trees to be removed shall be clearly marked. A scheme shall be established for the removal and disposal of logs, brush, earth and other debris which will avoid injury to any protected tree.
 - 2) Where proposed development or other site work is to encroach upon the protected perimeter of any protected tree, special measures shall be incorporated to allow the roots to breathe and obtain water and nutrients. Any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter shall be minimized. No change in existing ground level shall occur within a distance to be determined by the City Tree Reviewer from the base of any protected tree at any time. No burning or use of equipment with an open flame shall occur near or within the protected perimeter of any protected tree.
 - 3) No storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees shall occur within the distance to be determined by the Tree Reviewer from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. No heavy construction equipment or construction materials shall be operated or stored within a distance

from the base of any protected trees to be determined by the tree reviewer. Wires, ropes, or other devices shall not be attached to any protected tree, except as needed for support of the tree. No sign, other than a tag showing the botanical classification, shall be attached to any protected tree.

- 4) Periodically during construction, the leaves of protected trees shall be thoroughly sprayed with water to prevent buildup of dust and other pollution that would inhibit leaf transpiration.
- 5) If any damage to a protected tree should occur during or as a result of work on the site, the project applicant shall immediately notify the Public Works Agency of such damage. If, in the professional opinion of the Tree Reviewer, such tree cannot be preserved in a healthy state, the Tree Reviewer shall require replacement of any tree removed with another tree or trees on the same site deemed adequate by the Tree Reviewer to compensate for the loss of the tree that is removed.
- 6) All debris created as a result of any tree removal work shall be removed by the Project applicant from the property within two weeks of debris creation, and such debris shall be properly disposed of by the Project applicant in accordance with all applicable laws, ordinances, and regulations.

- **SCA A: Bird Collision Reduction**

Applies to ALL new construction, including telecommunication towers, which include large uninterrupted expanses of glass that account for more than 40 percent of any one side of the a building's exterior AND at least one of the following:

- The project is located immediately adjacent to a substantial water body (i.e., Oakland Estuary, San Francisco Bay, Lake Merritt or other substantial lake, reservoir, or wetland; OR
- The project is located immediately adjacent to a substantial recreation area or park (i.e., Region-Serving Park, Resource Conservation Areas, Community Parks, Neighborhood parks, and linear parks and Special Use Parks over 1 acre in size), which contain substantial vegetation; OR
- The project includes a substantial vegetated or greenroof (roofs with growing medium and plants taking the place of asphalt, tile, gravel, or shingles, but excluding container gardens):

Concurrent with submittal of planning applications or a building permit, whichever occurs first, and ongoing. The project applicant, or his or her successor, including the building manager or Home Owner's Association, shall submit plans to the Planning and Zoning Division, for review and approval, indicating how they intend to reduce potential bird collisions to the maximum feasible extent. The applicant shall implement the approved plan, including all mandatory measures, as well as applicable and specific project Best Management Practice (BMP) strategies to reduce bird strike impacts to the maximum feasible extent.

- a) Mandatory measures include **all** of the following:
 - i. Comply with federal aviation safety regulations for large buildings by installing minimum intensity white strobe lighting with three second flash instead of blinking red or rotating lights.

- ii. Minimize the number of and co-locate rooftop-antennas and other rooftop structures.
 - iii. Monopole structures or antennas shall not include guy wires.
 - iv. Avoid the use of mirrors in landscape design.
 - v. Avoid placement of bird-friendly attractants (i.e. landscaped areas, vegetated roofs, water features) near glass.
- b) Additional BMP strategies to consider include the following:
- i. Make clear or reflective glass visible to birds using visual noise techniques. Examples include:
 - 1. Use of opaque or transparent glass in window panes instead of reflective glass.
 - 2. Uniformly cover the outside clear glass surface with patterns (e.g., dots, decals, images, abstract patterns). Patterns must be separated by a minimum 10 centimeters (cm).
 - 3. Apply striping on glass surface. If the striping is less than 2 cm wide it must be applied vertically at a maximum of 10 cm apart (or 1 cm wide strips at 5 cm distance)
 - 4. Install paned glass with fenestration patterns with vertical and horizontal mullions of 10 cm or less.
 - 5. Place decorative grilles or louvers with spacing of 10 cm or less.
 - 6. Apply one-way transparent film laminates to outside glass surface to make the window appear opaque on the outside.
 - 7. Install internal screens through non-reflective glass (as close to the glass as possible) for birds to perceive windows as solid objects.
 - 8. Install windows which have the screen on the outside of the glass.
 - 9. Use UV-reflective glass. Most birds can see ultraviolet light, which is invisible to humans.
 - 10. If it is not possible to apply glass treatments to the entire building, the treatment should be applied to windows at the top of the surrounding tree canopy or the anticipated height of the surrounding vegetation at maturity.
 - ii. Mute reflections in glass. Examples include:
 - 1. Angle glass panes toward ground or sky so that the reflection is not in a direct line-of-sight (minimum angle of 20 degrees with optimum angle of 40 degrees)
 - 2. Awnings, overhangs, and sunshades provide birds a visual indication of a barrier and may reduce image reflections on glass, but do not entirely eliminate reflections.
 - iii. Reduce Light Pollution. Examples include:
 - 1. Turn off all unnecessary interior lights from 11 p.m. to sunrise.

2. Install motion-sensitive lighting in lobbies, work stations, walkways, and corridors, or any area visible from the exterior and retrofitting operation systems that automatically turn lights off during after-work hours.
3. Reduce perimeter lighting whenever possible.
- iv. Institute a building operation and management manual that promotes bird safety. Example text in the manual includes:
 1. Donation of discovered dead bird specimens to authorized bird conservation organization or museums to aid in species identification and to benefit scientific study, as per all federal, state and local laws.
 2. Production of educational materials on bird-safe practices for the building occupants
 3. Asking employees to turn off task lighting at their work stations and draw office blinds or curtains at end of work day.
 4. Schedule nightly maintenance during the day or to conclude before 11 p.m., if possible.

- **SCA 83: Creek Protection Plan**

Prior to and ongoing throughout demolition, grading, and/or construction activities.

1. The approved creek protection plan shall be included in the project drawings submitted for a building permit (or other construction-related permit). The project applicant shall implement the creek protection plan to minimize potential impacts to the creek during and after construction of the project. The plan shall fully describe in plan and written form all erosion, sediment, stormwater, and construction management measures to be implemented on-site.
2. If the plan includes a stormwater system, all stormwater outfalls shall include energy dissipation that slows the velocity of the water at the point of outflow to maximize infiltration and minimize erosion. The project shall not result in a substantial increase in stormwater runoff volume or velocity to the creek or storm drains.

4.3.3 Impacts and Mitigation Measures

Significance Criteria

Development facilitated by the Proposed Amendments would have a significant impact on the environment if it would:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG or USFWS;

3. Have a substantial adverse effect on federally protected wetlands (as defined by Section 404 of the Clean Water Act) or state protected wetlands, through direct removal, filling, hydrological interruption, or other means;
4. Substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
5. Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan;
6. Fundamentally conflict with the City of Oakland Tree Protection Ordinance (OMC Chapter 12.36) by removal of protected trees under certain circumstances [NOTE: Factors to be considered in determining significance include the number, type, size, location and condition of (a) the protected trees to be removed and/or impacted by construction and (b) protected trees to remain, with special consideration given to native trees.¹⁰ Protected trees include *Quercus agrifolia* (California or coast live oak) measuring four inches diameter at breast height (dbh) or larger, and any other tree measuring nine inches dbh or larger except eucalyptus and *pinus radiata* (Monterey pine); provided, however, that Monterey pine trees on City property and in development-related situations where more than five Monterey pine trees per acre are proposed to be removed are considered to be protected trees.];
7. Fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect biological resources. Although there are no specific, numeric/quantitative criteria to assess impacts, factors to be considered in determining significance include whether there is substantial degradation of riparian and/or aquatic habitat through: (a) discharging a substantial amount of pollutants into a creek; (b) significantly modifying the natural flow of the water; (c) depositing substantial amounts of new material into a creek or causing substantial bank erosion or instability; or (d) adversely impacting the riparian corridor by significantly altering vegetation or wildlife habitat.

Approach to Analysis

Potential impacts resulting from implementation of development facilitated by the Proposed Amendments were evaluated based on a review of the following sources:

- Existing resource information and aerial photographs of the Project Area and vicinity;
- Data presented in the CNDDDB (CDFG, 2010), CNPS *Electronic Inventory of Rare and Endangered Vascular Plants of California* (CNPS, 2010), for the Oakland West, Oakland East, San Leandro, and Richmond U.S. Geological Survey 7.5-minute topographic quadrangles and USFWS *Official List of Federal Endangered and Threatened Species* for Alameda County (USFWS, 2010), which include the project area and vicinity;
- Standard biological references (e.g., field guides);

¹⁰ Oakland Planning Code section 17.158.280E2 states that “Development related” tree removal permits are exempt from CEQA if no single tree to be removed has a dbh of 36 inches or greater **and** the cumulative trunk area of all trees to be removed does not exceed 0.1 percent of the total lot area.

- Surveys and environmental documents including specific information on species or habitats found in the project area;
- Other available literature regarding the natural resources of the area.

Impacts

The Project Area is located within and immediately adjacent to fully developed and busy city streets, and has a long history of urban development. The Project Area itself includes potential wetlands and/or waters of the U.S. that may be host to additional biological resources, but these areas will not be directly impacted by development facilitated by the Proposed Amendments. Specific projects initiated as a result of the Proposed Amendments would be analyzed separately for direct impacts to wetlands and/or waters of the U.S. and any potential biological resources the wetland and/or waters support. Additionally, Lake Merritt and Lakeside Park support a well-known bird refuge and both wintering and breeding habitat for migratory birds adjacent to the Project Area, and development facilitated by the Proposed Amendments is not expected to have direct impacts on these biological resources. Typically, analyses for projects located in such highly urbanized areas have focused primarily on ensuring landscape trees are removed without disturbing nesting birds (which would potentially violate the Migratory Bird Treaty Act or California Fish and Game Code), as well as focusing on adherence to local tree preservation ordinances such as those found in the OMC.

Impact BIO-1: Development facilitated by the Proposed Amendments could adversely affect, either directly or through habitat modifications, any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (Less than Significant)

As discussed in the Setting, there are several special-status animals that may potentially use habitat in the Project Area, including the peregrine falcon, California brown pelican, Cooper's hawk, red-shouldered hawk, red-tailed hawk, pallid bat, silver-haired bat, hoary bat, and big free-tailed bat. Other migratory birds, protected under the federal Migratory Bird Treaty Act and/or the California Fish and Game Code, Sections 3500-3516, may also use the Project Area. The Proposed Amendments may facilitate infrastructure improvements, including such items as streetscape improvements, installation of utilities, traffic capacity projects, mass-transit improvements, parking facilities, and storm drainage improvements, among others. Any of these activities could adversely impact special status species.

Tree removal, building demolition, and other construction activities can cause disturbance, noise, for example, or loss of habitat for resident or migratory birds and mammals, including bats. New structures could also significantly impact resident or migratory bird or mammals by raising the vertical profile of the buildings, which could result in increased avian or mammal collision.

The protective measures contained within SCA 44, *Tree Removal During Breeding Season*, would be applied to all vegetation (including trees and shrubs) capable of supporting breeding birds or bats in the Project Area. Additionally, SCA A, *Bird Collision Reduction*, reduces

incidents of bird and bat collision as a result of new building development. Therefore, the protective measures contained within the SCAs that would be incorporated into all development under the Proposed Amendments would reduce potential impacts to less-than-significant levels.

Mitigation: None Required.

Impact BIO-2: Development facilitated by the Proposed Amendments would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (No Impact)

No direct or indirect impacts on riparian or other sensitive habitats are expected because these habitats are absent from the Project Area or reasonably expected to be affected by the development facilitated by the Proposed Amendments.

Mitigation: None Required.

Impact BIO-3: Development facilitated by the Proposed Amendments could have a substantial adverse effect on federally protected wetlands (as defined by Section 404 of the Clean Water Act) or state protected wetlands, through direct removal, filling, hydrological interruption, or other means. (Less than Significant)

Although potential wetlands and/or waters are present within the project boundary, work is not anticipated to occur within these areas and they are not expected to be directly impacted by development facilitated by the Proposed Amendments.

Development under the Proposed Amendments is not expected to increase stormwater runoff since work is only expected to take place on areas that are already fully developed. However, potential increases in transmittal of oil, diesel fuel, transmission fluids, and other toxic materials from construction activities via runoff from the impermeable surfaces of the site, could result in significant adverse impacts to wetlands and/or other waters within the Project Area.

Incorporation of the City's SCAs relating to erosion control, stormwater management, and hazardous materials will address potential degradation of water quality that could result from project construction and reduce these potential impacts to less-than-significant levels. SCA 55, *Erosion and Sedimentation Control Plan*, 35, *Hazards Best Management Practices*, 75, *Stormwater Pollution Prevention Plan*, and 80, *Post-construction Stormwater Management Plan*, are relevant and will minimize potential indirect impacts to water quality in Lake Merritt, the Lake Merritt Channel, and the Oakland Inner Harbor to less-than-significant levels. These SCAs are discussed in Section 4.5, *Geology, Soils and Geohazards*; Section 4.7, *Hazardous Materials*; and Section 4.8, *Hydrology and Water Quality*, of this EIR.

Mitigation: None Required.

Impact BIO-4: Development facilitated by the Proposed Amendments could substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant)

The San Francisco Estuary is designated as a Western Hemisphere Shorebird Reserve Network of international importance, because more than one million shorebirds use San Francisco Bay wetlands each winter, between 300,000 and 900,000 shorebirds pass through San Francisco Bay during spring and fall migration periods, more than 50 percent of the diving ducks in the Pacific Flyway winter in the shallow wetlands of the Bay, and several species breed in the wetlands during the summer (Goals Project, 1999). Lake Merritt is a major wintering site for ducks and other waterfowl, with numbers easily reaching the thousands during fall, winter, and early spring. The Lake Merritt Channel and the Oakland Inner Harbor would also support these migratory birds. Many landbirds also use migratory routes along the Pacific Flyway and the parks and aquatic resources within the Project Area provide suitable habitat for these migrants. As addressed in Impact BIO-1, development facilitated by the Proposed Amendments may potentially impact migratory birds and bats through tree removal, building demolition, and construction of taller structures.

Development facilitated by the Proposed Amendments is not anticipated to directly or indirectly impact any of the aquatic habitats within the Project Area and therefore is not expected to impact migratory fish or wildlife resources within those habitats.

As stated in Impact BIO-1, SCA 44, *Tree Removal during Breeding Season*, and SCA A, *Bird Collision Reduction*, would be incorporated into development facilitated by the Proposed Amendments and would reduce potential impacts to migratory bird and bat species to less-than-significant levels.

Mitigation: None Required.

Impact BIO-5: Development facilitated by the Proposed Amendments would not fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan. (No Impact)

There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans that apply to the Project Area.

Mitigation: None Required.

Impact BIO-6: Development facilitated by the Proposed Amendments could fundamentally conflict with the City of Oakland Tree Protection Ordinance (Oakland Municipal Code Chapter 12.36) by removal of protected trees under certain circumstances. (Less than Significant)

The Project Area contains numerous trees, some of which may qualify as protected under the City of Oakland Tree Protection Ordinance (Oakland Municipal Code, Title 12, Chapter 12.36). Redevelopment and other construction-related activities facilitated by the Proposed Amendments may potentially impact protected trees through direct removal or through loss from adjacent construction.

SCA 46, *Tree Replacement Plantings*, requires replacement plantings for impacted protected trees. SCA 47, *Tree Protection during Construction*, provides for adequate protection, during construction, of any trees that are to remain standing. Both SCA 46 and SCA 47 would be incorporated into development facilitated by the Proposed Amendments and would ensure the impact is less than significant.

Mitigation: None Required.

Impact BIO-7: Development facilitated by the Proposed Amendments could fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect biological resources. (Less than Significant)

Oakland's Creek Protection Ordinance (Oakland Municipal Code, Title 13, Chapter 13.16.120) requires a Creek Protection Permit for construction that will take place within close proximity to a creek, as defined in the Ordinance. As a result, conflicts with the Ordinance will be addressed through this permitting process. Within the Project Area, the Lake Merritt Channel would be the only feature protected under the City of Oakland Creek Protection Ordinance. Development or construction in or around the Channel would be regulated by this Ordinance and require a Creek Protection Permit if work falls within the following four categories:

- Category 1: Interior construction and alterations including remodeling.
- Category 2: Exterior work that does not include earthwork and is located more than 100 feet from the centerline of the Creek.
- Category 3: Exterior work that is located between 20 feet from the top of the Creek bank and 100 feet from the centerline of the Creek; or Exterior work that includes earthwork involving more than three (3) cubic yards of material, beyond 20 feet from the top of the Creek bank.
- Category 4: Exterior work conducted from the centerline of the Creek to within 20 feet from the top of the Creek bank.

Although no development facilitated by the Proposed Amendments is anticipated to occur within the Lake Merritt Channel, work may occur adjacent to the Channel and could result in impacts to

the biological resources within the Channel. Projects exempt from the Creek Protection Permit requirement must comply with the remaining portions of the Ordinance and must incorporate site design/landscape characteristics which maximize infiltration (where appropriate), provide retention or detention, slow runoff, and minimize impervious land coverage (i.e., use hydrologic source controls) to the maximum extent practicable.

Development facilitated by the Proposed Amendments is not expected to increase stormwater runoff since work is only expected to replace existing structures and work within areas that are already fully developed. However, potential changes to impervious surfaces could result in significant adverse impacts to the Channel by increasing runoff. Additionally, construction related activities could increase sediment deposition into the Channel, which could also adversely impact the Channel.

Any work within the Project Area will comply with the City of Oakland's Creek Protection Ordinance (Oakland Municipal Code, Title 13, Chapter 13.16.120). Also, incorporation of the City's SCAs relating to erosion control, stormwater management, and hazardous materials will address potential degradation of water quality that could result from project construction and increase to impervious surfaces. These include SCAs 83, *Creek Protection Plan*; 55, *Erosion and Sedimentation Control Plan*; 57, *Vibrations Adjacent to Historic Structures*; 35, *Hazards Best Management Practices*, 75, *Stormwater Pollution Prevention Plan*, and 80, *Post-construction Stormwater Management Plan*, which would ensure that all development facilitated by the Proposed Amendments is in compliance with all aspects of the Creek Protection Ordinance, and would reduce the potential impacts on water quality to less than significant.

Mitigation: None Required.

Cumulative Impacts

Impact BIO-8: Construction activity and operations of development facilitated by the Proposed Amendments, in combination with past, present, existing, approved, pending and reasonably foreseeable future projects in the Project Area, would not result in impacts on special-status species, sensitive habitats, wildlife movement corridors, wetlands, and other waters of the U.S. (Less than Significant)

Geographic Context

The cumulative geographic context for biological resources for the Proposed Project consists of the areas of Lake Merritt and Lake Merritt Channel, the Oakland Estuary, and central San Francisco Bay.

Impacts

The cumulative analysis considers the effect of Proposed Amendment development in combination with past, present, existing, approved, pending and reasonably foreseeable future projects in the

Project Area (as described in Major Projects List in Appendix B to this Draft EIR, and discussed in Section 4.07.2, *Cumulative Context*, at the beginning of Chapter 4 of this Draft EIR). Past projects, i.e., the principal determinant of existing conditions in the downtown and Lakeside areas of Oakland, which are essentially developed and where natural communities no longer exist—even where open space persists, have already caused adverse cumulative effects on biological resources. The Project Area largely includes areas that have previously been developed. Work facilitated by the Proposed Amendments is not anticipated to occur within any wetlands and/or other waters. Incorporation of the City's SCAs relating to erosion control, stormwater management, and hazardous materials (57, *Vibrations Adjacent to Historic Structures*; 35, *Hazards Best Management Practices*; 55, *Erosion and Sedimentation Control Plan*; 75, *Stormwater Pollution Prevention Plan*; and 80, *Post-construction Stormwater Management Plan*) will ensure indirect impacts to wetland and/or other waters are less than significant. Additionally, incorporation of the City of Oakland's SCA 44, *Tree Removal During Breeding Season*; 45, *Tree Removal Permit*; 46, *Tree Replacement Plantings*; 47, *Tree Protection during Construction*; A, *Bird Collision Reduction*; and 83, *Creek Protection Ordinance*, among other applicable requirements, would also ensure that potential impacts to special status resources are less than significant.

Environmentally protective laws and regulations have been applied with increasing rigor since the early 1970s and include the CESA, FESA, and the CWA, as described in the *Regulatory Setting* earlier in this EIR chapter. Developments facilitated by the Proposed Amendments, as well as other future projects within the cumulative geographic context of the Project Area, would be required to comply with local, state, and federal laws and policies and all applicable permitting requirements of the regulatory and oversight agencies intended to address potential impacts on biological resources, including wetlands, other waters of the U.S., and special-status species. Additionally, new projects would be required to demonstrate that they would not have significant effects on these biological resources, although it is possible that some projects may be approved even though they would have significant, unavoidable impacts on biological resources.

Therefore, overall, considering development under the Proposed Amendments, with effects of past, present, pending and reasonably foreseeable future projects within the geographic context for this analysis, the cumulative effect on biological resources would be less than significant.

Mitigation: None Required.

4.3.4 References

California Department of Fish and Game (CDFG), California Natural Diversity Database (CNDDDB) version 3.1.0, data request for the Oakland West, Oakland East, San Leandro, and Richmond U.S. Geological Survey 7.5-minute topographic quadrangles, commercial version 09/05/10, expires 03/05/2011, information retrieved 10/27/10.

California Environmental Resources Evaluation System (CERES), 2007,
http://ceres.ca.gov/geo_area/bioregions/Bay_Delta/about.html, accessed 10/28/10

- California Native Plant Society (CNPS), CNPS Electronic Inventory, version 7-10c (08/24/10), data request for Oakland West U.S. Geological Survey 7.5-minute topographic quadrangle and surrounding eight quads, online application, <http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi/Html?item=checkbox.htm>, information retrieved 10/28/10.
- City of Oakland, Lake Merritt Channel Wetlands and Widening Project, April 2006, <http://www.oaklandnet.com/government/ceda/revised/planningzoning/Commission/April2006DraftEIRlakemerrittwetlands.pdf>, accessed 10/28/10.
- City of Oakland, Supervising Naturalist, personal communication, March 10, 2011.
- Cogswell, H., *Water Birds of California*, University of California Press, Berkeley, CA, 1977, [California Natural History Guides: 40].
- Ehrlich, P.R., D.S. Dobkin, and O. Wheye, *The Birder's Handbook: A Field Guide to the Natural History of North American Birds*, Simon and Schuster, New York, NY, 1988.
- Goals Project, Baylands Ecosystem Habitat Goals: A Report of Habitat Recommendations Prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project, San Francisco Estuary Project, 1999, http://www.sfestuary.org/userfiles/ddocs/Habitat_Goals.pdf.
- Leidy, R.A., Ecology, Assemblage Structure, Distribution, and Status of Fishes in Streams Tributary to the San Francisco Estuary, California, San Francisco Estuary Institute Contribution No. 540, April, 2007, available online: http://www.sfei.org/leidy_No530/, accessed 10/28/10.
- Lowe, Martha, Senior Watershed Ecologist, Environmental Science Associates, personal observation, peregrine falcons observed in downtown Oakland, July 27, 2010
- Nevill, G., Saturday in Oakland, Falcon Hunting (07-14-07), annotated photographs, <http://www.raptor-gallery.com/07-14-07/index.htm>, accessed 10/28/10
- Nevill, G. Nesting Peregrines on Fruitvale Ave Bridge, Alameda (04-24-10), annotated photographs, http://www.raptor-gallery.com/2010_04_24PM/index.htm, accessed 10/28/10
- Peeters, H. and J. Peeters, *Raptors of California*, University of California Press, Berkeley, CA, 2005, [California Natural History Guides: 82].
- Pham, G.N., Monitoring the water quality of Lake Merritt, Oakland, CA.: A study on species abundance in compliance with the water quality index, 2001, online article, <http://socrates.berkeley.edu/~es196/projects/2001final/Pham.pdf>, retrieved 06/20/08.
- San Francisco Estuary Institute (SFEI), Bay Area EcoAtlas Past and Present, Historical View 1770-1820, Modern View 1985-1996 [map], 1:525,000, <http://www.sfei.org/sites/default/files/users/jamiek/pastpres1.gif>, 1997, accessed 10/28/10.
- Schaeffer, K., K. McGourty, and N. Cosentino-Manning (eds.) 2007. Report on the Subtidal Habitats and Associated Biological Taxa in San Francisco Bay. National Oceanic and Atmospheric Administration National Marine Fisheries Service, Santa Rosa Office.
- Sibley, D.A., *The Sibley Guide to Birds*, Alfred A. Knopf, Inc., New York, 2000.

Sibley, D.A., The Sibley Guide to Bird Life and Behavior, Alfred A. Knopf, Inc., New York, 2001.

USFWS, Official List of Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in Alameda County USGS 7.5 Minute Quadrangles, Document Number: 101027052527, database revised and updated April 29, 2010, information retrieved 10/27/10.

Western Bat Working Group (WBWG), Species account for pallid bat, silver-haired bat, hoary bat, and big free-tailed bat, available online:
http://wbwg.org/speciesinfo/species_accounts/species_accounts.html, 2005a, b, c, and d.

4.4 Cultural Resources

This chapter of the DEIR briefly describes existing cultural resources within the Project Area and existing regulations regarding those resources. It also identifies potential impacts that implementation of the development facilitated by the Proposed Amendments may have on existing cultural and historical resources and recommends, where necessary and feasible, mitigation measures to reduce and/or avoid potentially significant impacts to those resources. Cultural and historical resources discussed in this section of the DEIR include:

- Prehistoric or historic-era archaeological sites,
- Properties of cultural or historic significance, and
- Paleontological resources.

Significance thresholds for impacts on these resources would generally be reached if redevelopment activity would disrupt or adversely affect the resources, further defined as alteration or destruction of the site or property, including both direct and indirect effects.

4.4.1 Environmental Setting

An overview of the history and development of the City of Oakland is contained in the *City of Oakland Historic Preservation Element* (1994, as amended 1998; pp. 1-2 through 1-9), and is hereby incorporated by reference. The Oakland City Planning Department's Cultural Heritage Survey project has prepared extensive neighborhood histories, thematic context statements, and individual property and district documentation that can be consulted for further information. The following discussion includes a brief summary of the Project Area's history as adapted in part from the *Historic Preservation Element*.

Prehistoric Setting

The Project Area is located in downtown Oakland. The area is now mostly urbanized, although prehistorically, it was a biologically rich alluvial plain and estuarine environment between the East Bay Hills and San Francisco Bay. The natural marshland biotic communities along the edges of bays and channels were the principal source for subsistence and other activities during the prehistory of the San Francisco Bay region.

Many of the original surveys of archaeological sites in the Bay region were conducted between 1906 and 1908 by Stanford (and, later, UC Berkeley) archaeologist N.C. Nelson. Such surveys yielded the initial documentation of nearly 425 "earth mounds and shell heaps" along the littoral zone of the Bay (Nelson, 1909). From these beginnings, the most notable sites in the Bay region were excavated scientifically, like the Emeryville shellmound (CA-ALA-309), the Ellis Landing Site (CA-CCO-295) in Richmond, and the Fernandez Site (CA-CCO-259) in Rodeo Valley (Morrato, 1984). These dense midden¹ sites, such as CA-ALA-309, have been carbon 14-dated to

¹ A midden is a mound of domestic refuse generally containing culturally darkened soils, shells and animal bones, as well as other indices of past human life and habitation. Middens mark the site of an indigenous settlement, and may contain human burials related to that settlement.

be 2310 ± 220 years old, but other evidence from around the Bay suggests that human occupation in the region began earlier, at least by around 5000 B.C. (Davis & Treganza, 1959 as cited in Moratto, 1984). These very early sites, from the Paleoindian Period (c. 10,000 to 6000 B.C.) and a subsequent unnamed period (c. 6000 to 2500 B.C.), are not well documented in the Bay Area, as they are believed to exist under alluvial deposits that have reshaped the bayshore since the end of the Pleistocene (Ragir 1972).

The Windmill Pattern (c. 2500 B.C. to 1500 B.C.) is characterized by relatively sparse, small sites situated on small knolls above seasonal floodplains on valley floors. The people inhabiting the Bay Area at this time may have migrated here from outside California, taking advantage of the seasonal resources afforded by rivers and marshes (Moratto, 1984).

Beginning around 2000 B.C., the bayshore and marsh-adapted peoples representing the so-called Berkeley Pattern appeared in the archaeological record. This pattern (c. 2000 B.C. to A.D. 300) reflected a change in socioeconomic complexity and settlement patterns from earlier adaptations (Fredrickson, 1973). This artifact pattern was represented by minimally-shaped cobble mortars and pestles, dart and atlatl hunting technology, and a well-developed bone carving industry. Given the size of these settlements, it is probable that the populations were denser and more sedentary, yet continued to exploit a diverse resource base from woodland to grassland and marshland, to bayshore and riverine resources throughout the San Francisco Bay Area (Bickel, 1978; King, 1974 as cited in Moratto, 1984). Many of the Berkeley Pattern traits diffused throughout the region and spread to the interior areas of central California during this time period.

The late prehistoric period, appearing in the archaeological record as the Augustine Pattern (c. A.D. 1000 until European contact), shows substantial population growth, increased trade and social exchange networks, increased ceremonial activity, and more intensive use of acorns as a staple food in addition to fish, shellfish, and a wide variety of hunted animals and gathered plant resources. Technological changes are shown in the adoption of the bow and arrow for hunting, and use of bone awls for basketry manufacture. The people of this period were the ancestors of the groups encountered by the first Spanish explorers.

Ethnographic Setting

Prior to Euroamerican contact, the Ohlone (also known by their linguistic group, Costanoan²) occupied the area that is currently Alameda County. Politically, the Ohlone were organized into sovereign groups that held a defined territory and exercised control over the resources within that territory. Each group was also a unit of linguistic and ethnic differentiation. In 1770, Costanoan-speaking people lived in approximately 50 separate and politically autonomous nations. Oakland and a large surrounding area of the East Bay are located within the territory of a people that spoke Chochenyo, one of eight recognized Costanoan languages. The number of Chochenyo speakers at the beginning of the Mission period was approximately 2,000, making it one of the more

² “Costanoan” is derived from the Spanish word *Costaños* meaning “coast people.” No native name of the Costanoan-speaking people as a whole existed in prehistoric times as the Costanoan language was shared between multiple ethnic groups and political entities. Most modern descendants of Costanoan-speaking peoples prefer to be known as Ohlone, a name derived from one of the tribal groups that occupied the San Gregorio watershed in San Mateo County.

populous linguistic groups (Milliken, 1995). At that time, at least four villages of Chochenyo speakers were probably settled within the boundaries of modern Oakland, although the exact locations are now unknown.

The Ohlone economy was based on fishing, gathering, and hunting, with the land and waters providing a diversity of resources including acorns, various seeds, salmonids and other fish, deer, rabbits, insects, and quail. The acorn was a very important dietary staple of the Ohlone. Acorns from several varieties of oaks were ground in mortars to produce a meal that was then leached to remove the bitter tannins. The Ohlone crafted tule reed balsas (a type of raft) for transportation along rivers and through marshlands; ground stone tools such as mortars and metates (a mortarlike flat bowl used for grinding grain); flaked stone arrow points, knives, scrapers, and other tools; and artfully woven and twined basketry. Houses were conical and likely thatched with tule reeds (Levy, 1978).

During the Mission Period, 1770-1835, the Ohlone people experienced cataclysmic changes in almost all areas of their life, particularly a massive decline in population due to introduced diseases and a declining birth rate, resulting in large part from colonization by the Spanish missionaries (Milliken, 1995). Many Chochenyo speakers moved, either by choice or by force, from the Oakland area to Mission San Jose. Following the secularization of the missions by the Mexican government in the 1830s, most Ohlone gradually left the missions to work as manual laborers on the ranchos that were established in the surrounding areas. It is estimated that by the late 1800s, perhaps ten percent of the pre-contact Ohlone population remained (Kroeber, 1932). Today, descendants of these survivors live throughout the Bay Area, and have formed modern tribal groupings to revive and promote their traditional arts, languages, and other cultural elements.

Historic Setting

The Project Area is within the Rancho San Antonio land grant that was granted to Luis Maria Peralta on August 3, 1820 for his service to the Spanish government. The nearly 44,000-acre rancho (eventually divided between Peralta's four sons) included the present-day cities of Oakland, Piedmont, Berkeley, Alameda, Emeryville, Albany, and parts of San Leandro. Peralta's land grant was confirmed after Mexico's independence from Spain in 1822, and the title was honored when California entered the Union by the Treaty of Guadalupe Hidalgo in 1848. Despite the confirmation of his ownership, by the middle of the 19th century, squatters had moved in to occupy portions of Peralta's undeveloped land. The Gold Rush and California statehood brought miners, businessmen, lumbermen and other speculators to the area in search of opportunities. Early settlers of that period include Edson Adams, Andrew Moon, and Horace Carpentier, who squatted on 480 acres of Vicente Peralta's (one of Luis Peralta's sons) land. Adams, Moon, and Carpentier subsequently hired Julius Kellersberger, an Austrian-educated Swiss military engineer, to plot a new city – Oakland – which was incorporated in 1852.

The city originally encompassed the area roughly bordered by the Oakland Estuary on the south, Market Street on the west, 14th Street on the north, and the Lake Merritt Channel on the east. Broadway served as the main street. The majority of the early city dwellers, numbering under one hundred, lived near the foot of Broadway in proximity to the estuary. From there, city development

moved north along the street car lines of Broadway and Telegraph Avenue towards the Oakland Hills and ultimately connecting with the separate towns that came to form East Oakland. Ferry service to San Francisco was established in 1854. A few of the earliest brick commercial buildings in the City, dating from the 1850s and 1860s, still stand along lower Broadway.

Lake Merritt was originally part of a tidal estuary formed by several creeks draining into the San Francisco Bay. The estuary, alternately known as San Antonio Creek or San Antonio Slough, was initially used as a depository for Oakland's sewer system. Sixty miles of brick and wood channels sent raw sewage from the new city to the estuary. A wooden box sewer line ran down 20th Street through the Project Area (Warring, 1886). The daily tidal flushing was deemed ideal for everyone in the new city except those who lived near the shore. One of those residents was the Oakland mayor, Dr. Samuel Merritt, who wished to clean up the water and create a source of civic pride. In 1868 he proposed and funded the construction of a dam that would control the flow of water between the estuary and the bay. Two new sewer line projects were constructed to divert sewage to other locations. The new lake was called "Lake Peralta," "Merritt's Lake," and ultimately Lake Merritt. In order to protect the great number of migratory birds as well as stop noise and gunfire in the city, Dr. Merritt also proposed to protect the lake as a wildlife refuge. In 1870, the California state legislature created the Lake Merritt Wildlife Refuge, the first in the state. No hunting was allowed and fishing could only be done with a hook.

With the selection of Oakland as the western land terminus of the first transcontinental railroad, the city population more than tripled in the decade between 1870 and 1880. Commercial development continued up Broadway and along Washington, and construction of houses rapidly expanded to keep up with the growing and increasingly diverse population of railroad workers, dock workers, laborers, business owners, and San Francisco commuters. A telegraph line to Sacramento was strung in the early 1860s along the route that would become Telegraph Avenue, further connecting the community to the larger region. Construction of a Victorian-style City Hall at Washington and 14th Streets was completed in 1871, and Oakland was named the county seat of Alameda County in 1873. The City's Chinatown neighborhood had been established in its current location around 8th and Webster Streets by the late 1870s.

The 1906 earthquake and subsequent fires that ravaged San Francisco generated further growth in Oakland, as the City absorbed refugees displaced by the disasters across the Bay. Commercial growth along Broadway continued, with a number of high-rise Beaux Arts-style buildings constructed for banks, department stores, and other major businesses. The center of local government remained at 14th and Washington Streets with the construction of a new City Hall (completed in 1914), the first in the country to be designed as a skyscraper. Industrial activities along the estuary also grew, with large warehouses and factories optimally positioned to take advantage of the port and railroad infrastructure. After the damming and improvement of Lake Merritt, this area of Oakland was home to an affluent residential neighborhood along the lake, and later became the site of a mix of mid-rise multiple family residential, religious, and institutional buildings. These and other developments and civic improvements of this time were greatly influenced by the "City Beautiful" movement, which encouraged thoughtful planning, landscaping, and artful ornamentation of otherwise utilitarian buildings and structures.

After the economic slump of the 1930s, Oakland became a major shipbuilding center during World War II, encouraging a new wave of growth. The City's African-American population increased about fivefold as immigrants from the south joined the ranks of shipyard workers. The census of 1945 shows the City's population at its all-time high of 405,301 residents. After the war ended and the shipyards closed, many of the City's residents found themselves unemployed, and the downtown and West Oakland areas began to experience an economic slide. This was exacerbated during the 1950s and 1960 with the proliferation of the automobile, construction of major freeways through the urban fabric, and the flight of wealthier (primarily White) residents to the outlying suburbs. The Loma Prieta earthquake of 1989 caused severe structural damage to City Hall and many other buildings in the downtown area. However, since the earthquake, restoration of many structures and redevelopment of areas such as City Center and the neighborhood surrounding Jack London Square have started to shift the Central District back into focus as a regional center of government and commerce.

Paleontological Setting

Paleontological resources are the fossilized remains of plants and animals, including vertebrates (animals with backbones), invertebrates (e.g., starfish, clams, ammonites, and marine coral), and fossils of microscopic plants and animals (microfossils). The age and abundance of fossils depend on the location, topographic setting, and particular geologic formation in which they are found. Fossil discoveries not only provide a historic record of past plant and animal life, but may assist geologists in dating rock formations. Often, fossil discoveries constrain the known time period and geographic range of flora or fauna.

On a regional scale, fossilized plants, animals and microorganisms are prevalent throughout the East Bay Area. Many of the hills in the East Bay are made up of sedimentary bedrock that is known to contain a wide range of fossils, including radiolaria, mollusks, diatoms, foraminifera, and non-marine vertebrates. In addition, even geologically young fluvial deposits have been known to contain freshwater mollusks and extinct late-Pleistocene vertebrate fossils (Graymer, 2000).

The Project Area overlies geologic units that have low to moderate paleontological sensitivity. Artificial fill forms the ground surface in many portions of the Project Area, overlying deposits of mud and silt associated with the present-day estuary (Bay Mud). This Bay Mud overlies Merritt Sand, which is composed of Pleistocene-age deposits of wind-blown sand as much as 50 feet thick in the Project Area (Graymer, 2000). Generally, these types of geologic deposits do not preserve significant vertebrate fossils. While the Bay Mud may preserve a variety of recent marine invertebrate fossils (mollusks, clams, foraminifera, microorganisms, etc...), such fossils are likely to exist in other Bay Mud deposits all around the Bay Area and would not be considered significant or unique. Deeper deposits of older Quaternary Alluvium may underlie the Merritt Sands in portions of the Project Area; these formations would have the highest likelihood of containing significant fossil resources.

4.4.2 Regulatory Setting

National Historic Preservation Act, National Register of Historic Places, and National Historic Landmarks

The National Historic Preservation Act of 1966 as amended (NHPA) addresses those concerns pertinent to the effect of federal actions on cultural resources (16 USC § 470 *et seq.*). The NHPA sets forth the federal government's policy on historic preservation, including establishing the National Register of Historic Places (NRHP, National Register). The National Register is the nation's official list of cultural resources worthy of preservation. Properties listed in the NRHP include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture.

To be listed on the National Register, a property must be shown to be "significant" at the local, state, or national level under one or more of the following criteria (36 CFR 60.4). Eligible resources are those:

1. That are associated with events that have made a significant contribution to the broad patterns of our history (Criterion A - Event);
2. That are associated with the lives of persons significant in our past (Criterion B - Person);
3. That embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction (Criterion C - Design/Construction); or
4. That have yielded, or may be likely to yield, information important in prehistory or history (Criterion D - Information Potential).

The property must also possess historic "integrity." Integrity is defined as "the ability of a property to convey its significance." The National Register criteria recognize seven qualities that define integrity: location, design, setting, materials, workmanship, feeling, and association.

- "Location" refers to the place where the historic property was originally constructed or situated.
- "Design" is the combination of architectural elements that create the form, structure and style of the property.
- "Setting" is the physical environment surrounding a historic resource.
- "Materials" are the original physical components that were combined during a particular period in time and in a particular pattern to form the historic resource.
- "Workmanship" is the physical evidence of the building crafts and skills of a particular culture during a given period.
- "Feeling" is a property's expression of the aesthetic or historic sense of a particular period of time.

- “Association” is the direct link between an important historic event or person and a cultural resource.

Special considerations apply to moved or reconstructed properties, cemeteries, religious or commemorative properties, and properties achieving significance within the past 50 years. As indicated in Section 101(d)(6)(A) of the NHPA, properties of traditional religious and cultural importance to an Indian Tribe are eligible for inclusion in the National Register. The National Register eligibility criteria and considerations are used as a standard in other programs such as the California Register of Historic Resources and many local evaluation and designation systems, including Oakland’s.

Section 106 of the NHPA requires review by the Advisory Council on Historic Preservation and/or State Historic Preservation Officer (SHPO) of any federal actions (including federally funded grants or loans) that may adversely affect properties listed on, eligible for, or potentially eligible for the National Register. Listing is normally initiated by an application to the State Historical Resources Commission. Determinations of eligibility usually take place as part of federally related project reviews. Properties officially determined eligible for the National Register have the same protections and the same standing in environmental review as those properties that have already been listed; however, only listed properties may qualify for a 20 percent federal investment tax credit.

Approximately 20 resources in the Project area are individually listed on the NRHP, including residential properties (Pardee House, Madison Park Apartments), government and civic buildings (Oakland City Hall, Charles S. Greene Branch Library), and commercial and industrial properties (Kahn’s Department Store, American Bag Company/Union Hide Company), as well as churches, theaters, hotels, and other public and private spaces. Approximately 70 more buildings contribute to the NRHP-listed Downtown Oakland Historic District, the Harrison and 15th Historic District, and the Oakland Waterfront Warehouse District. Dozens of additional properties within the Central District have been officially determined eligible.

National Historic Landmarks are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. National Historic Landmarks are given special protection by Section 110(f) of the NHPA. In the Project Area, the Paramount Theatre is designated as a National Historic Landmark (NHL). The Lake Merritt Wild Duck Refuge is a second NHL located partially within and immediately adjacent to the Central District.

California Environmental Quality Act, California Register of Historical Resources, and California State Historical Landmarks

CEQA requires lead agencies in California to consider the effects of proposed actions on historic resources, defined as those resources meeting the criteria for listing on the California Register of Historic Resources (CRHR, California Register). This definition of “historic resources” includes buildings, structures, objects, sites, and districts determined to be eligible for or listed on the California Register, the National Register, or a local register of historic resources. A lead agency

may also determine a resource to be significant for purposes of CEQA. Section 15064.5 of CEQA assigns special importance to human remains and specifies procedures to be followed when Native American remains are discovered.

The California Register is an authoritative guide to the state's cultural resources, and provides the standards by which properties are considered significant for CEQA purposes. The California Register program encourages public recognition and protection of resources of architectural, historical, archaeological and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding and affords certain protections under CEQA. The California Register includes resources listed in or formally determined eligible for listing in the National Register; California State Landmarks; and California Points of Historical Interest. The State Office of Historic Preservation (OHP) maintains a list of historical resources by county in their Directory of Properties in the Historic Property Data File. A building or structure identified in OHP's Directory with a rating of 1 or 2 (on or determined eligible for the National Register) is considered to be "listed" on the California Register. Hundreds of properties within the Central District are listed in or eligible for listing in the California Register.

Properties of local significance that have been designated under a local preservation ordinance (i.e., local landmarks), or that have been identified in a local historical resources inventory may also be eligible for listing in the California Register and are presumed to be significant resources for purposes of CEQA.

In order for a resource to meet the criteria for listing in the California Register, it must satisfy all of the following three provisions:

1. It meets one or more of the following four criteria of significance (PRC 5024.1[c] and CEQA Guidelines 15064.5):
 - a. the resource "is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;"
 - b. the resource "is associated with the lives of persons important in our past;"
 - c. the resource "embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;" or
 - d. the resource "has yielded, or may be likely to yield information important in prehistory or history" (this criterion applies primarily to archaeological sites).
2. The resource retains historic integrity; and
3. It is fifty years old or older (except where it can be demonstrated that sufficient time has passed to understand the historical importance of the resource).

California Historical Landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. The specific standards now in use

were first applied in the designation of Landmark #770. California Historical Landmarks #770 and above are automatically listed in the California Register of Historical Resources.

In the Project Area, the First Unitarian Church of Oakland (#896), the Paramount Theatre (#884), the Pardee House (#1027), and the Site of the College of California (#45) are designated California Historical Landmarks. Although the designation of a property as a California Historical Landmark carries no direct regulatory protection, these properties are eligible for official state landmark plaques and highway directional signs. The concurrent listing of a California Historical Landmark on the California Register affords the property all the regulatory protections of CEQA.

Local Plans and Policies

In the City of Oakland, a historical resource under CEQA is defined by the City's CEQA Thresholds of Significance as a resource that meets any of the following criteria:

1. A resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources;
2. A resource included in Oakland's Local Register of Historical Resources (defined below), unless the preponderance of evidence demonstrates that it is not historically or culturally significant;
3. A resource identified as significant (e.g., rated 1–5) in a historical resource survey recorded on Department of Parks and Recreation Form (DPR) 523, unless the preponderance of evidence demonstrates that it is not historically or culturally significant;
4. Any object, building, structure, site, area, place, record, or manuscript which the Oakland City Council determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the determination is supported by substantial evidence in light of the whole record. Generally, a resource is considered "historically significant" if it meets the criteria for listing on the California Register of Historical Resources CEQA Guidelines section 15064.5; or
5. A resource that is determined by the City Council to be historically or culturally significant even though it does not meet the other four criteria listed here.

City of Oakland General Plan Historic Preservation Element

In March 1994, the Oakland City Council adopted a Historic Preservation Element (HPE) of the General Plan (amended July 21, 1998), which sets forth goals, objectives, policies, and actions for historic preservation in the City of Oakland. The HPE creates a wide-reaching, multifaceted "Historic Preservation Strategy" that addresses a wide variety of properties and is intended to help revitalize Oakland's districts and neighborhoods. Guiding the HPE are the two broad, ambitious goals at its core:

Goal 1: To use historic preservation to foster the economic vitality and quality of life in Oakland by:

- (1) Stressing the positive community attributes expressed by well-maintained older properties;
- (2) Maintaining and enhancing throughout the City the historic character, distinct charm, and special sense of place provided by older properties;
- (3) Establishing and retaining positive continuity with the past thereby promoting pride, a sense of stability and progress, and positive feelings for the future;
- (4) Stabilizing neighborhoods, enhancing property values, conserving housing stock, increasing public and private economic and financial benefits, and promoting tourist trade and interest through preservation and quality maintenance of significant older properties;
- (5) Preserving and encouraging a city of varied architectural styles and environmental character reflecting the distinct phases of Oakland's cultural, social, ethnic, economic, political, and architectural history; and
- (6) Enriching the quality of human life in its educational, spiritual, social, and cultural dimensions through continued exposure to tangible reminders of the past.

Goal 2: To preserve, protect, enhance, perpetuate, use, and prevent the unnecessary destruction or impairment of properties or physical features of special character or special historic, cultural, educational, architectural or aesthetic interest or value.

The chapters of the HPE address identification, designation, preservation in ongoing city activities, and education and information. The HPE sets out a graduated system of ratings and designations based on the Oakland Cultural Heritage Survey (OCHS) information and implemented in the Oakland Planning Code. Incentives and regulations for historic properties are similarly graduated based on the relative importance of the property.

Oakland Cultural Heritage Survey

The Oakland Cultural Heritage Survey is the City Planning Department's comprehensive city-wide inventory of historic buildings and districts. Since 1979, the OCHS has created and maintained an inventory of historic resources throughout the city, providing a basis for many of the policies in the HPE. Every property in Oakland has at least a preliminary rating and estimated construction date from Reconnaissance Surveys conducted in 1985-1986 and 1996-1997. These preliminary surveys are intended to be confirmed or modified over time by the OCHS Intensive Surveys. All properties in the Central District and some other important historic neighborhoods have been comprehensively researched, evaluated, and documented through Intensive Survey. Inclusion of a property in the Survey has no direct regulatory effect; however, the ratings provide guidance to City staff and property owners in design review, code compliance, and similar ongoing City activities. The intensive survey formal evaluation is based on the following criteria:

1. Visual Quality/Design: Evaluation of exterior design, interior design, materials and construction, style or type, supporting elements, feelings of association, and importance of designer.
2. History/Association: Association of person or organization, the importance of any event, association with patterns of history, and the age of the building.

3. Context: Continuity and familiarity of the building within the city, neighborhood, or district.
4. Integrity and Reversibility: Evaluation of the building's condition, its exterior and interior alterations, and any structural removals.

Survey ratings describe both the individual building and its neighborhood context. The OCHS rates individual properties using a five-tier rating system:

- A. Highest importance: Of exceptional historical or architectural value, outstanding example, clearly eligible for the National Register. Approximately 160 citywide, about 75 of which are located within the Central District.
- B. Major importance: Major historical or architectural value, fine example, probably eligible for the National Register. More than 600 citywide, including nearly 125 in the Project area.
- C. Secondary importance: Superior or visually important example, very early, or otherwise noteworthy; these properties "warrant limited recognition" but generally do not appear individually eligible for the National Register (although they may contribute to a district). Approximately 10,050 citywide, with more than 650 located in the Central District.
- D. Minor importance: Typical or representative example of a type, style, convention, or historical pattern. More than 25,000 citywide, approximately 200 of which are in the Project area. Many "D" and lower-rated properties are Potential Designated Historic Properties (PDHPs), either because they have higher contingency ratings or because they contribute or potentially contribute to a district.
- E. Of no particular interest: not representative of any important pattern and visually undistinguished.
- * or F. Not rated: Recent or totally modernized. Some of these also have higher contingency ratings.

This letter rating is termed the Individual Property Rating of a building. Properties with conditions or circumstances that could change substantially in the future are assigned both an "existing" and a "contingency" rating. The existing rating (UPPER CASE letter) describes the property under its present condition, while the contingency rating (lower case letter, if any), describes it under possible future circumstances, e.g., when older, with new information, or if restored.

Individual properties are also given a Multiple Property Rating (1, 2, or 3) based on an assessment of the significance of the area in which the property is located. Properties within an Area of Primary Importance (API: areas that appear eligible for the National Register) are rated "1," those located in an Area of Secondary Importance (ASI: likely not eligible for the National Register) are rated "2," and those outside an identified district are rated "3." A plus (+), minus (-), or asterisk (*) symbol indicates respectively whether the property contributes to the API or ASI, does not contribute, or potentially contributes.

APIs are historically or visually cohesive areas or property groupings that usually contain a high proportion of individual properties with ratings of "C" or higher and appear eligible for the National Register, either as a district or as a historically-related complex. At least two-thirds of

the properties must be contributors to the API, reflecting the API's principal historical or architectural themes, and must not have undergone major alterations. APIs and their contributors are included on the Local Register.

ASIs are similar to APIs; however, remodeled buildings that are potential contributors to the ASI are counted for purposes of the two-thirds threshold as well as contributors. ASIs do not appear eligible for the National Register, usually because they are less intact or less unique than APIs.

Designated Historic Properties

The Oakland Planning Code currently provides for five types of historic property designations: landmarks, S-7 and S-20 preservation combining zones (historic districts), preservation study list, and heritage properties. It also establishes the Landmarks Preservation Advisory Board (Landmarks Board) to oversee these properties.

Oakland Landmarks (Section 17.07.030(p) of the Planning Code). Properties designated as Oakland Landmarks are those having "special character or special historical, cultural, educational, architectural, aesthetic or environmental interest or value." This definition is more specifically interpreted in the Landmark Board's "Guidelines for Determination of Landmark Eligibility" (City of Oakland 1994). Designation is through a three-part application process requiring public hearings and approval by the Landmarks Board, Planning Commission, and City Council. Landmarks are protected by Landmarks Board review of exterior alterations, and demolition of landmarks can be delayed by up to 280 days.

There are currently more than 140 Oakland Landmarks, approximately 55 of which are located in the Central District. These include properties as diverse as the Oakland Museum, the Latham Square Fountain, the Tribune Tower, the Buddhist Church of Oakland, the Western Pacific Railroad Depot, and Jefferson and Lincoln Squares.

S-7 and S-20 Preservation Combining Zone (Sections 17.84 and 17.100B of the Planning Code). The S-7 and S-20 Preservation Combining Zones are the City's historic preservation zoning districts. Areas eligible for S-7 designation are those having "special importance due to historical association, basic architectural merit, or the embodiment of a style or special type of construction, or other special character, interest, or value." District boundaries are established partly by historic tract boundaries and historic natural or man-made features that shaped the district's development (e.g., the shoreline, railroad tracks) and partly by later intrusion or demolition. The S-20 zone is similar to the S-7 preservation combining zone, but is designed for larger areas, often with a large number of residential properties that may not be individually eligible for landmark designation but which as a whole constitute a historic district. Demolition and design regulations pertaining to S-7 and S-20 properties are similar to those for landmarks, as described above. In the S-20 zone, most design review follows ordinary City processes, with potential referral to Landmarks Board.

There are currently nine S-7 and S-20 preservation districts containing approximately 1500 individual properties citywide. In the Central District, S-7 preservation districts include Preservation Park and Old Oakland-Victorian Row, with 35 and 37 buildings respectively. Preservation Park was

established in part as a destination for relocation of Victorian-era buildings that would otherwise have been demolished; many now function as office spaces for nonprofit organizations.

Design Review Criteria for Construction and Alteration (Section 17.84.040 of the Planning Code). In the S-7 zone, proposals requiring regular design review approval pursuant to Section 17.84.030 may be granted only upon determination that the proposal conforms to the regular design review criteria set forth in the design review procedure in Chapter 17.136 and to all of the following additional design review criteria:

- A. That the proposal will not substantially impair the visual, architectural, or historic value of the affected site or facility. Consideration shall be given to design, form, scale, color, materials, texture, lighting, detailing and ornamentation, landscaping, Signs, and any other relevant design element or effect, and, where applicable, the relation of the above to the original design of the affected facility.
- B. That the proposed development will not substantially impair the visual, architectural, or historic value of the total setting or character of the surrounding area or of neighboring facilities. Consideration shall be given to integration with, and subordination to, the desired overall character of any such area or grouping of facilities. All design elements or effects specified in subsection A of this section shall be so considered.
- C. That the proposal conforms to the Design Guidelines for Landmarks and Preservation Districts as adopted by the City Planning Commission and, as applicable for certain federally related projects, with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

(Ordinance 12513 Attach. A (part), 2003: Prior planning code § 6403)

Design Review Criteria for Demolition or Removal (Section 17.84.050 of the Planning Code). In the S-7 zone, no demolition or removal of a structure or portion thereof may be granted unless the proposal conforms to the regular design review criteria set forth in the design review procedure in Chapter 17.136 and to the following additional design review criteria set forth in subsections A and B of this section, or to one or both of the criteria set forth in subsection C of this section:

- A. That the affected structure or portion thereof is not considered irreplaceable in terms of its visual, cultural, or educational value to the area or community;
- B. That the proposed demolition or removal will not substantially impair the visual, architectural, or historic value of the total setting or character of the surrounding area or of neighboring facilities;
- C. If the proposal does not conform to the criteria set forth in subsections A and B of this section:
 - 1. That the structure or portion thereof is in such condition that it is not architecturally feasible to preserve or restore it, or
 - 2. That, considering the economic feasibility of preserving or restoring the structure or portion thereof, and balancing the interest of the public in such preservation or restoration and the interest of the owner of the property in the utilization thereof, approval is required by considerations of equity. (Prior planning code § 6404)

Preservation Study List and Heritage Properties (Section 17.102.060 of the Planning Code).

The Preservation Study List, used in the first three decades of the Landmarks Board's existence, was defined as "a list of facilities under serious study for possible landmark designation or for other appropriate preservation action." The Landmarks Board, the Planning Commission, or the Planning Director could add properties to the list while it was active. A new, formal designation called Heritage Property is defined in the Historic Preservation Element of the General Plan as "properties which definitively warrant preservation but which are not Landmarks or Preservation Districts." Properties are eligible for nomination if they have at least an existing or contingency "C" (secondary) rating or could contribute to a preservation district. Heritage Property can be considered a less exclusive form of Landmark designation.

Policy 2.5 of the HPE creates the Heritage Property designation described above. This designation is available to any properties with an OCHS Intensive Survey rating of "A," "B," or "C" (or an "A" or "B" rating from a Reconnaissance Survey), or which contribute to any area meeting the Preservation District eligibility guidelines. The Planning Director can postpone demolition of a Study List/Heritage Property for up to 120 days, during which time Landmark or other preservation district designations may occur or other means to preserve the property are investigated.

Potential Designated Historic Properties - PDHPs

Under Policy 1.2 of the HPE, Potential Designated Historic Properties (PDHPs) are any properties that have an OCHS rating of at least a contingency "C," or that contribute or potentially contribute to a primary or secondary district. These properties "warrant consideration for possible preservation." PDHPs are a large group - approximately one-fifth to one-quarter of all buildings in Oakland. They are intended to be numerous enough to "significantly influence the City's character." The inclusion of contingency-rated properties as PDHPs is intended to highlight their value as restoration opportunities. District contributors or potential contributors are classified as PDHPs to promote preservation of Oakland's distinctive neighborhoods. More than 600 PDHPs are located within the Central District.

While most PDHPs do not appear obviously eligible for the National or California Registers and therefore (in the absence of Heritage Property designation or some other formal action) do not meet the CEQA definition of "historic resources," they are recognized and protected under the HPE for their contribution to the Oakland environment. Chapter 5 of the HPE contains policies and actions for the protection and enhancement of PDHPs.

Local Register of Historical Resources

The HPE provides the following definition of the City of Oakland's Local Register of Historical Resources (Local Register), or properties considered significant for purposes of environmental review under CEQA:

1. All Designated Historic Properties (DHPs - Landmarks, Heritage Properties, Study List Properties, Preservation Districts, and S-7 and S-20 Preservation Combining Zone Properties); and

2. Those Potential Designated Historic Properties (PDHPs) that have an existing rating of “A” or “B,” or are located within an Area of Primary Importance (API). An API is a district that appears eligible for the National Register.

This is the minimum set of historic properties that must be given consideration during CEQA environmental review. Policy 3.8 of the HPE defines a “significant adverse effect” to Local Register properties.

General Plan Policies

Policies in the General Plan provide the basis for preservation, restoration, and protection of historic properties and other cultural resources. Each of the potential projects, programs, and implementation activities pursuant to the Redevelopment Plan has potential for adverse or beneficial effects on historic properties. Policies and actions in the HPE provide guidance toward minimizing adverse effects. Redevelopment also has the potential to assist in implementation of beneficial HPE actions.

As an implementation tool of the General Plan and all its Elements, the Redevelopment Plan is intended to be fully consistent with General Plan policies. Objectives and policies found in the HPE that are particularly relevant to the Redevelopment Plan are summarized below. Some of the actions related to these policies have already been completed, while some are ongoing.

Objective 1: Identifying Properties Potentially Warranting Preservation. Policies and actions related to this Objective describe the OCHS rating system, inventory goals and guidelines, and define the various types of Designated Historic Properties as well as PDHPs.

Objective 2: Preservation Incentives and Regulations for Designated Historic Properties. This objective directs the City to develop a system of preservation incentives and regulations for specially designated significant older properties which (i) enhances economic feasibility for preservation; (ii) provides a predictable and appropriate level of protection, based on each property’s importance; (iii) reasonably balances preservation with other concerns; and (iv) operates efficiently, avoiding unnecessary regulatory procedures and review periods.

- *Policy 2.1:* The City will use a combination of incentives and regulations to encourage preservation of significant older properties and areas which have been designated as Landmarks, Preservation Districts, or Heritage Properties. The regulations will be applied according to the importance of each property, with the more important properties having stronger regulations. Policy 2.1 is a general policy which is expressed more specifically in this chapter’s other policies and their related actions.
- *Policy 2.6:* This policy recommends Preservation Incentives for Landmarks and Preservation District properties, including several financial incentives (e.g., Mills Act contracts, conservation easements, development assistance from historic preservation grants or historical rehabilitation bonds, fee waivers or reductions for City permits), use of the State Historical Building Code to provide more flexible construction standards, a broader range of permitted or conditionally permitted uses, and transferable development rights. Heritage Properties and compatible new development on vacant noncontributing parcels of a Preservation District are eligible for some of the same incentives.

Objective 3: Historic Preservation and Ongoing City Activities. This objective seeks to establish administrative procedures and criteria to promote preservation of significant older properties as a routine part of City-sponsored or assisted projects, programs and regulatory activities.

- *Policy 3.1:* Avoid or minimize adverse historic preservation impacts related to discretionary City actions. Policy 3.1 is a general policy which is expressed more specifically in this Chapter's other policies and their related actions.
- *Policy 3.2:* To the extent consistent with other Oakland General Plan objectives, the City will ensure that all City-owned or controlled properties will, in fact, be preserved. All City-owned or controlled properties which may be eligible for Landmark or Heritage Property designation or as contributors to a Preservation District will be considered for such a designation. Related actions set out the steps for designation (3.2.1) and recommend a formal historic preservation management procedure for City-owned properties (3.2.2).
- *Policy 3.3:* To the extent consistent with other General Plan goals, policies and objectives, as a condition for providing financial assistance to projects involving existing or Potential Designated Historic Properties, the City will require that complete application be made for such properties to receive the highest local designation for which they are eligible prior to issuance of a building permit for the project, or a transfer of title (for City-owned or controlled properties), whichever comes first.
- *Policy 3.4:* City Acquisition for Historic Preservation Where Necessary. This policy proposes limited acquisition powers for extremely important properties in dire situations. Related actions direct the City to develop procedures and criteria for City acquisition of historic properties, including acquisition by eminent domain.
- *Policy 3.5:* Historic Preservation and Discretionary Permit Approvals. This policy establishes design review findings for alterations and demolitions of Heritage Properties and PDHPs. This policy applies to both publicly and privately sponsored projects. Related actions include the development of appropriate design guidelines and standard conditions of approval for such projects.
- *Policy 3.6:* Historic Preservation and City-Sponsored or Assisted Projects. This policy recommends that City-sponsored or assisted projects involving an existing or Potential Designated Historic Property "be selected and designed to avoid adverse effects...and to promote preservation and enhancement." The Secretary of the Interior's Standards for the Treatment of Historic Properties are used as one criterion for avoiding adverse effects. This policy extends the protections applied to federally related projects under Section 106 of the NHPA to "non-Federally funded City projects and to City projects that involve existing or Potential Designated Historic Properties that are not on or eligible for the National Register." Related actions direct the City to develop or modify evaluation and selection procedures that appropriately balance historic preservation with other priorities.
- *Policy 3.7:* As a condition of approval for all discretionary projects involving demolition of existing or Potential Designated Historic Properties, the City will normally require that reasonable efforts be made to relocate the properties to an acceptable site. Actions associated with this policy include preparation of relocation procedures and design guidelines, investigation of assistance programs, and review

of permit regulations for both City-sponsored or assisted projects and discretionary permit approvals.

- *Policy 3.8:* Definition of “Local Register of Historic Resources” and historic preservation “Significant Effects” for environmental review purposes. This policy defines the minimum set of historical resources that require consideration in environmental review and declares that complete demolition of a historic resource cannot normally be mitigated to a level of insignificance.

Measures appropriate to mitigate significant effects to a Historical Resource may include one or more of the following measures depending on the extent of the proposed addition or alterations:

- 1) Modification of the project design to avoid adversely affecting the character defining elements of the property.
- 2) Relocation of the affected Historical Resource to a location consistent with its historical or architectural character.

If the above measures are not feasible, then other measures may be considered including, but not limited to the following:

- 3) Modification of the project design to include restoration of the remaining historic character of the property.
 - 4) Modification of the project design to incorporate or replicate elements of the building's original architectural design.
 - 5) Salvage and preservation of significant features and materials of the structure in a local museum or within the new project.
 - 6) Measures to protect the Historical Resource from effects of on-site or other construction activities.
 - 7) Documentation in a Historic American Buildings Survey report or other appropriate format: photographs, oral history, video, etc.
 - 8) Placement of a plaque, commemorative, marker, or artistic or interpretive display on the site providing information on the historical significance of the resource.
 - 9) Contribution to a Facade Improvement Fund, the Historic Preservation Revolving Loan Fund, the Oakland Cultural Heritage Survey, or other program appropriate to the character of the resource.
- *Policy 3.9:* Consistency of zoning with existing or eligible preservation districts. This policy recommends including a historic preservation component in areawide and specific plans.
 - *Policy 3.10:* Historic preservation in response to earthquakes, fires or other emergencies.
 - *Policy 3.11:* Historic preservation and seismic retrofit and other building safety programs. Policies 3.10 and 3.11 direct that retrofit and repair be carried out in a manner that minimizes adverse effects on character-defining elements.

- *Policy 3.12*: Historic preservation and substandard or public nuisance properties.
- *Policy 3.13*: Security of vacant properties. Policies 3.12 and 3.13 recommend an extensive program for dealing with substandard and nuisance properties, including repair rather than demolition, earlier intervention, repair with liens, property acquisition and transfer, financial assistance, and improved security of vacant properties.
- *Policy 3.14*: Promotes commercial revitalization programs and California Main Street projects with a specific focus on preserving and enhancing designated and potential designated historic commercial properties and districts.

Objective 4: Archaeological Resources. This objective seeks to develop databases identifying existing and potential archaeological sites and adopt procedures for protecting significant archaeological resources. Related policies and actions describe the measures the City will take to protect significant archaeological resources during ground-disturbing activities associated with discretionary projects.

Objective 5: Information and Education. This objective seeks to provide and encourage informational and educational programs to enhance public and City staff appreciation of older properties and increase the level of technical knowledge. Associated policies and actions promote research and information dissemination programs; public recognition of historic properties and preservation efforts through plaques, certificates, walking tours and guidebooks; City-sponsored design assistance, rehabilitation training and apprenticeship programs, rehabilitation publications, and a preservation-related design and construction bookstore; public school curricula emphasizing Oakland's history and architectural heritage; and improved City records management.

City of Oakland Planning Code

In addition to providing definitions of the four types of Designated Historic Properties, the Planning Code contains specific regulations for projects meeting certain criteria.

17.136.055 Special Regulations for Historic Properties in the Central Business Zones. This chapter of the Code applies to projects within Central Business Zones that involve existing or PDHPs. It contains findings applicable to alterations, additions and new construction, and circumstances requiring hearings in front of the Landmarks Board. In short, these projects must ensure that the character-defining elements of a historic property are not adversely affected by the proposed project, and that such projects would be visually compatible with surrounding historic properties (if located in a historic district).

17.136.060 Review by Landmarks Board in Certain Cases. This regulation states that whenever an application is for regular design review in the S-7 zone, or on a designated Landmark site, the Director of City Planning shall refer the proposal to the Landmarks Board for its recommendations. Referral to the Landmarks Board may be appropriate, at the discretion of the Director of City Planning, for projects involving regular design review in the S-20 zone, or when a proposed addition or alteration will have a significant effect on the property's character-defining elements that are visible from a street or other public area.

17.136.070 Special Regulations for Designated Landmarks. This chapter includes regulations specific to the designation and preservation of Landmarks, including requirements that alterations and new construction may not adversely affect the exterior features of the Landmark, or the special character, interest, or value of the landmark or its setting. All projects involving Landmarks should conform, if possible, with the Design Guidelines for Landmarks and Preservation Districts as adopted by the City Planning Commission and/or the Secretary of the Interior's Standards for the Treatment of Historic Properties. The Director of the City Planning Commission is given the authority to decide whether or not project proposals conform to these regulations. The regulations also stipulate that the owner, lessee, or other person in actual charge of a designated Landmark has a duty to maintain the property and keep it in good condition.

17.136.075 Regulations for Demolition or Removal of Designated Historic Properties and Potentially Designated Historic Properties. This chapter codifies regulations for approval of demolition or removal permits. With the exception of structures declared to be a public nuisance by the Building Official or City Council, Regular Design Review of the demolition or removal of a Designated Historic Property or PDHP shall only be approved after the Regular Design Review of a replacement project at the subject site has been approved; however, demolition of nuisance structures must still undergo Regular Design Review for demolition. Regular Design Review approval for the demolition or removal of any Local Register property that is not in an S-7 or S-20 zone or API may be granted only if the proposal conforms to the general design review criteria, all other applicable design review criteria, and additional criteria set forth in the chapter. Approval of a demolition or removal permit for a contributing property in an S-7 or S-20 zone or an API is subject to similar criteria, while permit approval criteria for noncontributing Preservation District properties and PDHPs are less restrictive. The Director of City Planning may postpone issuance of a demolition permit for up to 120 days (from the date of permit application) following Design Review approval.

City of Oakland Municipal Code Article III – Green Building Compliance Standards (Section 18.02.100). This regulation requires all buildings or projects to comply with the requirements of the California Building Energy Efficiency Standards (Title 24, Part 6) of the California Building Code. This regulation requires any new construction projects resulting in removal of a historic resource, one- and two-family additions and alterations of historic resources that exceed 1,000 square feet of floor area, multi-family additions and alterations of historic resources, non-residential additions and alterations of historic resources between 5,000 and 25,000 square feet of floor area, non-residential additions and alterations of a historic resource over 25,000 square feet of floor area, or non-residential additions and alterations not meeting the Major Alteration definition and over 25,000 square feet of floor area, are required to consult with a Historic Preservation Planner, seek LEED and Green Building certification, in addition to other specific requirements.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

The City's SCAs relevant to the cultural resources that might be affected by the development facilitated by the Proposed Amendments are listed below. If the Proposed Amendments are

approved by the City, all applicable SCAs will be adopted as conditions of approval and required of the development facilitated by the Proposed Amendments and any subsequent related projects to help ensure no significant impacts to cultural resources occur. Because the conditions of approval are incorporated as part of the development facilitated by the Proposed Amendments they are not listed as mitigation measures.

- **SCA 52: Archaeological Resources**

Ongoing throughout demolition, grading, and/or construction

- a. Pursuant to CEQA Guidelines section 15064.5 (f), “provisions for historical or unique archaeological resources accidentally discovered during construction” should be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified archaeologist would meet to determine the appropriate avoidance measures or other appropriate measure, with the ultimate determination to be made by the City of Oakland. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.
- b. In considering any suggested measure proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, the project applicant shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while measure for historical resources or unique archaeological resources is carried out.
- c. Should an archaeological artifact or feature be discovered on-site during project construction, all activities within a 50-foot radius of the find would be halted until the findings can be fully investigated by a qualified archaeologist to evaluate the find and assess the significance of the find according to the CEQA definition of a historical or unique archaeological resource. If the deposit is determined to be significant, the project applicant and the qualified archaeologist shall meet to determine the appropriate avoidance measures or other appropriate measure, subject to approval by the City of Oakland, which shall assure implementation of appropriate measures recommended by the archaeologist. Should archaeologically-significant materials be recovered, the qualified archaeologist shall recommend appropriate analysis and treatment, and shall prepare a report on the findings for submittal to the Northwest Information Center.

- **SCA 53: Human Remains**

Ongoing throughout demolition, grading, and/or construction. In the event that human skeletal remains are uncovered at the project site during construction or ground-breaking activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of Section 7050.5 of the Health and Safety

Code, and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously.

- **SCA 54: Paleontological Resources**

Ongoing throughout demolition, grading, and/or construction. In the event of an unanticipated discovery of a paleontological resource during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (per Society of Vertebrate Paleontology standards [SVP 1995,1996]). The qualified paleontologist shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important, and such plan shall be implemented. The plan shall be submitted to the City for review and approval.

- **SCA 56: Compliance with Policy 3.7 of the Historic Preservation Element (Property Relocation Rather than Demolition)**

Prior to issuance of a demolition permit. The project applicant shall make a good faith effort to relocate the affected building(s) to a site acceptable to the Planning and Zoning Division and the OCHS. Good faith efforts include, at a minimum, the following:

- a. Advertising the availability of the building by: (1) posting of large visible signs (such as banners, at a minimum of 3'x 6' size or larger) at the site; (2) placement of advertisements in Bay Area news media acceptable to the City; and (3) contacting neighborhood associations and for-profit and not-for-profit housing and preservation organizations;
- b. Maintaining a log of all the good faith efforts and submitting that along with photos of the subject building showing the large signs (banners) to the Planning and Zoning Division;
- c. Maintaining the signs and advertising in place for a minimum of 90 days; and
- d. Making the building available at no or nominal cost (the amount to be reviewed by the Landmarks Preservation Advisory Board) until removal is necessary for construction of a replacement project, but in no case for less than a period of 90 days after such advertisement.

- **SCA 57: Vibrations Adjacent to Historic Structures**

Prior to issuance of a demolition, grading or building permit. The project applicant shall retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that could damage the affected historic building(s) and design means and methods of construction that shall be utilized to not exceed the thresholds.

4.4.3 Study Results

Archaeological Resources

A records search was conducted by ESA cultural resources staff at the Northwest Information Center (NWIC) at Sonoma State University in Rohnert Park, California on November 5, 2010. The records were accessed by utilizing the Oakland West, California, U.S. Geological Survey 7.5-minute quadrangle base maps. The records search, which encompassed the entire Project Area and immediately adjacent areas, was conducted to: (1) determine whether known cultural resources had been recorded within or adjacent to the Project Area; (2) assess the likelihood of unrecorded cultural resources based on historical references and the distribution of nearby sites; and (3) develop a context for the identification and preliminary evaluation of cultural resources.

During the records search, the following sources were reviewed: the *California Inventory of Historical Resources* (OHP, 1976), *California Historical Landmarks* (OHP, 1990), *California Points of Historical Interest* (OHP, 1992), and *Historic Properties Directory Listing* (OHP, 2010). The Historic Properties Directory includes listings of the National Register and the California Register, and the most recent listings of California Historical Landmarks and California Points of Historical Interest.

The records search at the NWIC revealed that seven recorded archaeological resources are located in the Central District Redevelopment Project Area (**Table 4.4-1**). Three of these resources are prehistoric shell middens, all originally recorded by N.C. Nelson during his 1906 survey of San Francisco Bay Area shellmounds. One of these sites is located close to (but not in) the area proposed for the Victory Court ballpark. While development may have partially disturbed and obscured these resources, intact portions of these sites may still exist below the ground surface. Unknown prehistoric resources may exist anywhere in the Project Area, including deeply-buried archaeological sites that have no surface manifestation. Prehistoric archaeological materials could include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (“midden”) containing heat-affected rocks, shell, bone, and artifacts; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered-stone tools, such as hammerstones and pitted stones.

**TABLE 4.4-1
ARCHAEOLOGICAL RESOURCES IN THE PROJECT AREA**

Primary Site #	Trinomial (if applicable)	Site Description
P-01-000026	CA-ALA-5	Prehistoric shell midden
P-01-000091	CA-ALA-314	Prehistoric shell midden
P-01-000092	CA-ALA-315	Prehistoric shell midden
P-01-010529		Old railway remnants
P-01-010532		Historic-period refuse concentration
P-01-010534		19th century manhole
P-01-010535		19th century manhole

SOURCE: NWIC, 2010 and Way, 2000.

Historic-period archaeological sites recorded in the Project Area include the remnants of an old railway or trolley line, a historic-period refuse concentration, and 19th-century manholes associated with the water conveyance system. Historic-period archaeological deposits may be located anywhere in the Project Area, and may include similar resources as well as stone, concrete, or adobe footings and walls; filled wells or privies; and sheet deposits of metal, glass, and/or ceramic debris. Also, numerous archaeological reports and surveys prepared for the Uptown Project and surroundings support the high likelihood that significant archaeological resources may be discovered during excavation in that vicinity, which is located in the central portion of the Project Area (Archeo-tec Inc., 2005, 2007.)

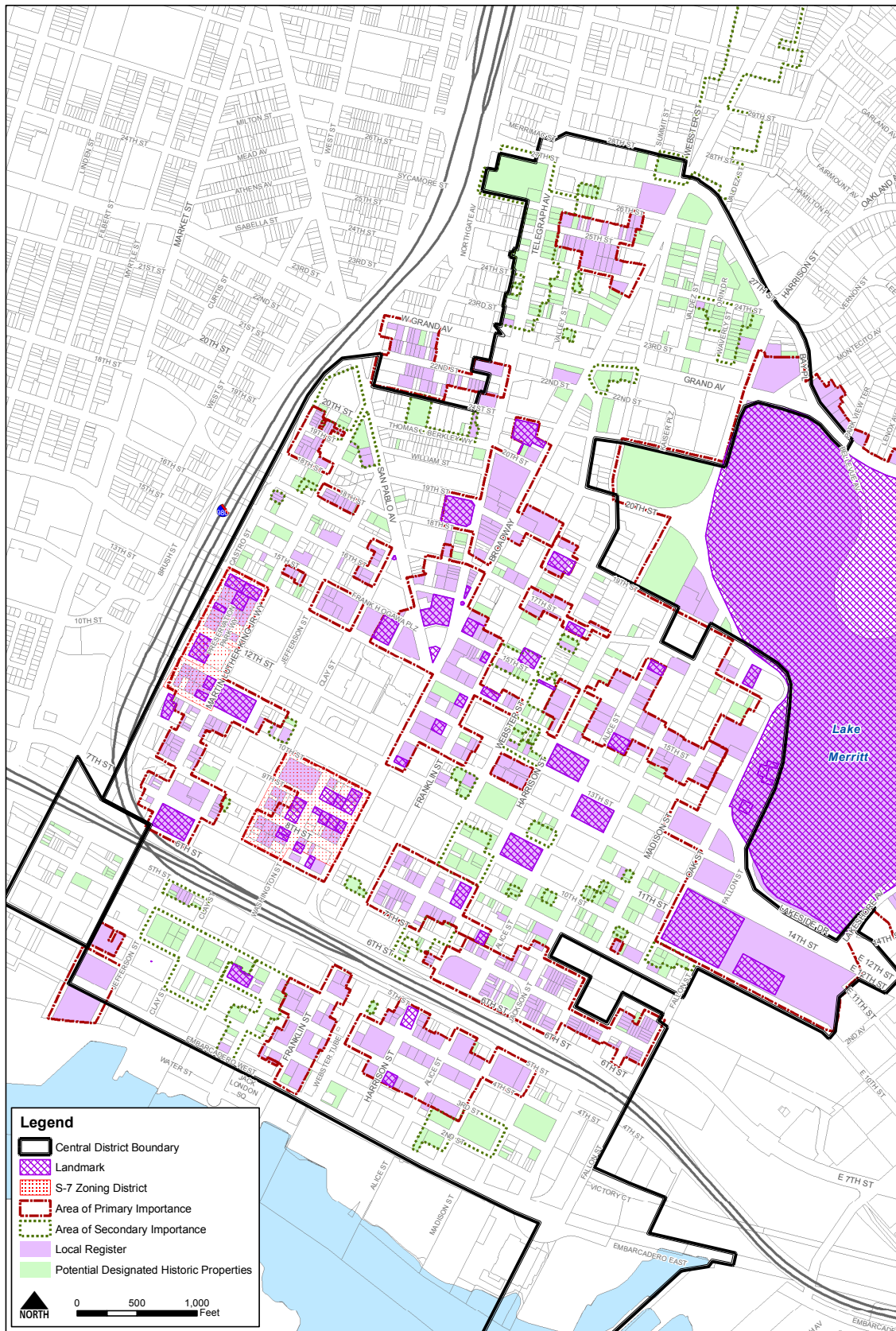
Historical Properties

The Central District Redevelopment Project Area has perhaps the highest density of historical properties in Oakland. Many of the area's Victorian and Beaux Arts commercial buildings in the central business district are on the Local Register, as are industrial properties along the waterfront. **Figure 4.4-1** provides a map of City of Oakland historical resources, including historic districts, in the Project Area. This map is provided to show the concentration of historical resources in the Project Area and this map should not be relied on wholly for the most current information because data is constantly changing. Information regarding historical properties was gathered from the records search at the NWIC and at the Oakland City Planning Department.

As described in the Regulatory Setting section, there are two National Historic Landmarks, four California Historic Landmarks, 24 listed properties (individual buildings and districts) on the National Register, and 53 City of Oakland Landmarks in the Project Area. There are approximately 540 Local Register properties in the Central District, with approximately 620 additional PDHPs. Together, the Local Register properties and the PDHPs account for nearly half of all buildings within the Central District. Many of the resources have multiple and overlapping listings or designations, as shown in **Table 4.4-2**.

These historical resources represent a wide range of property types and ages, exemplifying Oakland's earliest development along the waterfront to late twentieth century cultural institutions. City Landmarks include the 1875 Italianate style Camron-Stanford House along the shores of Lake Merritt, as well as the 1964-68 concrete Brutalist style Oakland Museum. There are numerous recorded historic properties along the waterfront section of the Project Area adjacent to the proposed Victory Court ballpark, as well as within the proposed Broadway / Valdez Specific Plan Area.

Designated historic districts in the Project Area include Preservation Park centered on 13th and Castro Streets (S-7), Old Oakland-Victorian Row, between 7th, Clay, Broadway, and 10th Streets (S-7), the Downtown Oakland Historic District along Broadway between 11th and 17th Streets (National Register), the Harrison and 15th Historic District (National Register), and the Oakland Waterfront Warehouse District (National Register). There are many other identified Areas of Primary Importance of comparable quality and significance, as well as Areas of Secondary Importance (see map, Figure 4.4-1). The Landmarks Board has emphasized the City's commitment to preservation and rehabilitation of not only individual historic buildings, but districts and neighborhoods such as these, as well as cultural sites and landscapes.



SOURCE: City of Oakland, 2010

Proposed Amendments to the Central District Urban Renewal Plan . 210505.01

Figure 4.4-1
Local Register and Potential
Designated Historic Properties

This map is provided only to illustrate the concentration of historic properties in the Project Area. The information is based on the City's current GIS data. Because the status of buildings and assessor's parcel numbers can change, and the GIS data may contain errors, omissions, or inaccuracies, the information provided in this map is not intended for any other use and should not be relied on for any other purpose.

**TABLE 4.4-2
SELECTED HISTORICAL RESOURCES IN THE PROJECT AREA:
CITY LANDMARKS AND OTHER MAJOR DESIGNATIONS**

Property Name	NHL	NRHP	CHL	Oakland Landmark
10th Street Market - Swan's Market		X		
Alameda County Title Insurance Company Building (Holland Building, Everis Building)		D		X
American Bag Company- Union Hide Company		X		X
Arlington Hotel Building				X
Asian Resource Center – Hebern Building				X
Bowman B. Brown's Building and Annex				X
The Broadway Building/ Lionel Wilson Building (First National Bank Building)		D		X
Buddhist Church of Oakland				X
Camron-Stanford House		X		X
Central Pacific Railway Depot (Mi Rancho)				X
Clay Building		X		
Delger Block				X
Downtown Oakland Historic District (58 properties)		X		
Dunn's Block		X		X
Federal Realty (Cathedral) Building		X		X
Financial Center Building		D		X
First Unitarian Church of Oakland		X	X	X
Fox Oakland Theater		X		X
Fredrick B. Ginn House				X
Gooch Block (Ratto's International Grocery)				X
Greek Orthodox Church of the Assumption		X		X
Harrison and 15th Historic District (8 properties)		X		
Howden Building				X
James White House				X
Jefferson Square				X
Kahn's Department Store		X		X
Lake Merritt Hotel				X
Lake Merritt Wild Duck Refuge	X	X		X
LaSalle Hotel Building				X
Latham Square Fountain		D		X
Leamington Hotel Building and Annex				X
Lincoln (Oakland) Square				X
Lloyd Hotel Building				X
Maclise Drug Store Building				X
Madison Park Apartments		X		
Main (Civic Center) Post Office and Federal Building		X		X
Malonga Casquelourd Center for the Arts (Women's City Club, Alice Arts Center)				X
Municipal Boathouse (Municipal Boathouse - High Pressure Pumping Station No. 1)				X

TABLE 4.4-2 (Continued)
SELECTED HISTORICAL RESOURCES IN THE PROJECT AREA

Property Name	NHL	NRHP	CHL	Oakland Landmark
Oakland Chinese Presbyterian Church and Annex				X
Oakland City Hall		X		X
Hotel Oakland		X		X
Oakland Municipal Auditorium				X
Oakland Museum (including certain interior features)				X
Oakland Public Library (Charles S. Greene Library)		X		X
Oakland Title Insurance Building		D		X
Waterfront Warehouse District (30 properties)		X		
YWCA Building		X		X
Pacific Gas & Electric Building		X		
Palace Apartments (Alison Apartments)				X
Paramount Theatre	X	X	X	X
Pardee House		X	X	X
Peniel Mission (Oriental Block)				X
Portland Hotel- Henry House				X
Roos Brothers Building		D		X
The Rotunda		X		X
Security Bank and Trust Company Building		X		
Site of College of California			X	
Tribune Tower		D		X
Victorian Legal Center/ Law Offices of Warren B. Wilson (Mason-Elsey-Wilson House)				X
Western Pacific Depot				X
White Building		D		X
Wilcox Block and Annex (Gladstone)				X

NOTE: "D" in the NRHP column means the property is on the National Register as a district contributor.

SOURCE: NWIC, 2010, Way, 2000, City of Oakland, 2011.

Although the Project Area has been surveyed by OCHS or others in the recent past, there are likely many other properties that have not yet been identified or evaluated for their potential historical significance, either at federal, state, or local levels. New information or new contexts may be discovered, or properties may not have been 50 years old at the time of the original surveys. By the end of the Redevelopment Plan time limit in 2023, buildings constructed before 1973 will have reached 50 years of age. As such, there may exist numerous other properties in the Project Area that are potentially eligible for listing at federal, state, and local levels and therefore could be considered historical resources for purposes of CEQA Section 15064.5.

Paleontological Resources

The University of California, Museum of Paleontology (UCMP) maintains the world's largest database of fossil discoveries and collections, with thousands of records for the East Bay. A search of the database by location and age (Quaternary) revealed 72 Pleistocene-age localities and 47 Recent (Holocene) localities within Alameda County. While many of these localities contain no recorded specimens, two localities very near the Project Area report a total of 27 vertebrate fossils from a variety of now-extinct Pleistocene mammals. These were identified during deep excavations for the roadway tunnels connecting the island of Alameda to the mainland. Fourteen invertebrate fossils of Quaternary age were reported from various locations in Oakland, three of which were found in or around Lake Merritt. One plant fossil was also reported in Oakland, although a more specific location could not be determined (UCMP, 2008 and 2010). Whether or not these fossils were found within the specific geologic units underlying the Project Area was not able to be determined from the information in the UCMP database.

4.4.4 Impacts and Mitigation Measures

Significance Criteria

A project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. For purposes of this section, a historical resource is one that meets the City of Oakland's definitions listed above. The fact that a resource is not listed in or formally determined to be eligible for listing in the NRHP, CRHR, or a local register of historical resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1 of the Public Resources Code (PRC), shall not preclude the City from determining that the property may be a historical resource for purposes of this EIR.

Development facilitated by the Proposed Amendments would have a significant impact on the environment if it would:

1. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5. Specifically, a substantial adverse change includes physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be "materially impaired." The significance of an historical resource is "materially impaired" when a project demolishes or materially alters, in an adverse manner, those physical characteristics of the resource that convey its historical significance and that justify its inclusion on, or eligibility for inclusion on an historical resource list (including the California Register of Historical Resources, the National Register of Historical Resources, Local Register, or historical resources survey form (DPR Form 523) with a rating of 1-5);
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5;
3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
4. Disturb any human remains, including those interred outside of formal cemeteries.

Approach to Analysis

Prior to approval of any project that is facilitated by the Proposed Amendments, the project would be subject to CEQA review as well as the SCAs and the goals and policies of the City's General Plan as outlined above. The approach used to analyze potentially significant impacts of the development facilitated by the Proposed Amendments on cultural resources included an evaluation of the applicability of the SCAs for the protection of cultural resources, in consideration of the time extension of the Redevelopment Plan by 11 years (from 2012 to 2023), and identification of additional mitigation measures if such SCAs were deemed insufficient to fully mitigate potentially significant impacts. As direct and indirect impacts to cultural resources typically arise from ground-disturbing activities (excavation for building foundations and utilities), as well as new construction, and demolition and alteration of existing buildings, the potential for such activities to occur as a result of future redevelopment plan projects was the focus of the analysis.

Impacts

Historical Resources

Impact CUL-1: Development facilitated by the Proposed Amendments could result in the physical demolition, destruction, relocation, or alteration of historical resources that are listed in or may be eligible for listing in the federal, state, or local registers of historical resources. (Significant)

As described above, the Project Area contains perhaps the highest density of historical properties in Oakland. Implementation of the Proposed Amendments would facilitate additional redevelopment activities in the Project Area, which could result in the future demolition, destruction, relocation, or alteration of historical resources (i.e., those which are listed in the federal, state, or local registers of historical resources). Such impacts to historical properties would be considered a potentially significant impact under CEQA.

In addition, while much of the Project Area has been surveyed for the existence of historical resources in the recent past, there may be many other properties in the Project Area that have not yet been identified or evaluated for their *potential* historical significance, either at federal, state, or local levels (i.e., those properties which are eligible for listing). Such properties may not have been 50 years old at the time of the original surveys, but may have reached this age threshold by 2012, or may reach 50 years of age by the end of the Redevelopment Plan time limit in 2023, alterations may have been reversed, or new information may have come to light. As such, there may exist numerous other properties in the Project Area that are potentially eligible for listing and could similarly be adversely affected by redevelopment activities, including physical demolition, destruction, relocation, or alteration. Such potential impacts to previously unidentified historical resources would be considered a potentially significant impact under CEQA.

While implementation of the City of Oakland's SCA 56, *Property Relocation Rather than Demolition*, and SCA 57, *Vibrations Adjacent to Historic Structures*, would provide some level of protection for historical properties that may be affected by implementation of the Proposed Amendments, and future projects would undergo separate environmental review as they are

proposed, additional mitigation may be necessary to reduce all potential impacts to some historical resources to a less-than-significant level.

Mitigation Measure CUL-1 includes multiple measures and approaches, some that could reduce impacts to designated and currently unevaluated historic properties to a less-than-significant level, and others that would reduce impacts to some historic properties, but not to a less-than-significant level.

Mitigation Measure CUL-1:

a) Avoidance, Adaptive Reuse, or Appropriate Relocation of Historically Significant Structures.

- *Avoidance.* The City shall ensure that all future redevelopment activities allowable under the Proposed Amendments, including demolition, alteration, and new construction, would avoid historical resources (i.e., those listed on federal, state, and local registers).
- *Adaptive Reuse.* If avoidance is not feasible, adaptive reuse and rehabilitation of historical resources shall occur in accordance with the *Secretary of Interior's Standards for the Treatment of Historic Properties*.
- *Appropriate Relocation.* If avoidance or adaptive reuse *in situ* is not feasible, pursuant to SCA CUL-4, Compliance with Policy 3.7 of the Historic Preservation Element (Property Relocation Rather than Demolition), redevelopment projects able to relocate the affected historical property to a location consistent with its historic or architectural character could reduce the impact less than significant (Historic Preservation Element Action 3.8.1), unless the property's location is an integral part of its significance, e.g., a contributor to a historic district.

b) Future Site-specific Surveys and Evaluations.

Although most of the Project Area has been surveyed by the City of Oakland's OCHS, evaluations and ratings may change with time and other conditions. As such, there may be numerous other previously unidentified historical resources which would be affected by future redevelopment activities, including demolition, alteration, and new construction. For any future redevelopment project that would occur on or immediately adjacent to buildings 50 years old or older, and would occur between 2012 and 2023 (i.e., buildings constructed prior to 1973), the City shall require specific surveys and evaluations of such properties to determine their potential historical significance at the federal, state, and local levels. Intensive-level surveys and evaluations shall be completed by a qualified architectural historian who meets the *Secretary of the Interior's Standards* for architectural history. For all historical resources identified as a result of site-specific surveys and evaluations, the City shall ensure that future redevelopment activities, including demolition, alteration, and new construction, would avoid, adaptively reuse and/or appropriately relocate such historical resources in accordance with measure "a" (Avoidance, Adaptive Reuse, or Appropriate Relocation of Historically Significant Structures), above.

c) Recordation and Public Interpretation.

If measure “a” (Avoidance, Adaptive Reuse, or Appropriate Relocation of Historically-significant Structures) is determined infeasible as part of any future redevelopment scenarios, the City shall evaluate the feasibility of recordation and public interpretation of such resources prior to any construction activities which would directly affect them. Should City staff decide recordation and or public interpretation is required, the following activities would be performed:

- *Recordation.* Recordation shall follow the standards provided in the National Park Service’s Historic American Building Survey (HABS) program, which requires large-format photo-documentation of historic structures, a written report, and measured drawings (or photo reproduction of original plans if available). The photographs and report would be archived at local repositories, such as public libraries, historical societies, and the Northwest Information Center at Sonoma State University. The recordation efforts shall occur prior to demolition, alteration, or relocation of any historic resources identified in the Project Area, including those that are relocated pursuant to measure “a” (Avoidance, Adaptive Reuse, or Appropriate Relocation of Historically-significant Structures). Additional recordation could include (as appropriate) oral history interviews or other documentation (e.g., video) of the resource.
- *Public Interpretation.* A public interpretation program would be developed by a qualified historic consultant in consultation with the Landmarks Preservation Advisory Board and City staff, based on a City-approved scope of work and submitted to the City for review and approval. The program could take the form of plaques, commemorative markers, or artistic or interpretive displays which explain the historical significance of the properties to the general public. Such displays would be incorporated into project plans as they are being developed, and would typically be located in a publicly accessible location on or near the site of the former historical resource(s). Public interpretation displays shall be installed prior to completion of any construction projects in the Project Area.

Photographic recordation and public interpretation of historically significant properties prior to their demolition or alteration does not typically mitigate the loss of potentially historic resources to a less-than-significant level [CEQA Section 15126.4(b)(2)].

d) Financial Contributions.

If measure “a” (Avoidance, Adaptive Reuse, or Appropriate Relocation of Historically-significant Structures) and measure “b” (Future Site-specific Surveys and Evaluations) are not satisfied, the project applicants of specific projects facilitated by the Proposed Amendments shall make a financial contribution to the City of Oakland, which can be used to fund other historic preservation projects within the Project Area or in the immediate vicinity. Such programs include, without limitation, a Façade Improvement Program, or the Property Relocation Assistance Program.

This mitigation would conform to Action 3.8.1(9) of the Historic Preservation Element of the City of Oakland General Plan. Contributions to the fund(s) shall be determined by staff at the time of approval of site-specific project plans based on a formula to be

determined by the Landmarks Preservation Advisory Board. However, such financial contribution, even in conjunction with measure “c” (Recordation and Public Interpretation), would not reduce the impacts to less-than-significant levels.

Only avoidance of direct effects to these structures, appropriate relocation and/or adaptive reuse in accordance with the *Secretary of the Interior’s Standards for the Treatment of Historic Properties*, as would be achieved through measure “a” (Avoidance, Adaptive Reuse, or Appropriate Relocation of Historically-significant Structures) and measure “b” (Future Site-specific Surveys and Evaluations), would reduce the impacts of development in the Project Area to historic resources to a less-than-significant level. Therefore, if demolition or substantial alteration of historically-significant resources is identified by the City as the only feasible option to redevelopment in the Project Area, even with implementation of measure “c” (Recordation and Public Interpretation) and measure “d” (Financial Contributions), the impact of development facilitated by the Proposed Amendments would be considered significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Archaeological Resources

Impact CUL-2: Development facilitated by the Proposed Amendments could result in significant impacts to both known and unknown archaeological resources. (Less than Significant)

As shown in Table 4.4-1, the records search at the NWIC indicated that three distinct prehistoric archaeological sites are located in the Project Area. Although unconfirmed, there is a high probability that these midden sites may contain human remains. (See Impact CUL-4, below.) An additional four historic-period archaeological resources have also been recorded in the Project Area vicinity, and evidence supports a high likelihood that significant archaeological resources may exist in the vicinity of the Uptown Area located in the central portion of the Project Area (Archeo-tec Inc., 2005, 2007).

Potential impacts to archaeological resources has been addressed in the Oakland General Plan, the Land Use and Transportation Element (LUTE) EIR, as well as the City’s SCA. Compliance with (1) General Plan objectives and policies addressing archaeological resources; (2) the LUTE EIR mitigation measure that specifically direct the City to establish procedures for determining when discretionary City approval of ground-disturbing activities warrant special conditions to safeguard archaeological resources; which has, in part, been incorporated into (3) the City’s SCA’s addressing archaeological resources, would reduced impacts on archaeological impacts to less than significant in most cases, particularly at a program-level of analysis.

Implementation of the City of Oakland’s SCA 52, *Archaeological Resources*, is considered adequate to ensure that inadvertent discoveries of any subsurface archaeological materials, even in this area where there are known sites that may qualify as unique archaeological resources under CEQA, are dealt with according to regulatory guidance and result in a less-than-significant impact.

The Central District includes the areas of oldest development and historical activity, including Chinatown and the Oakland Estuary and its connected waterways located underground as well as above ground. The area is recognized as potentially sensitive for the existence of archaeological and buried sites not visible due to urban development anywhere in the Project Area. However, implementation of the City of Oakland's SCA 52, *Archaeological Resources*, is considered adequate to ensure that inadvertent discoveries of any subsurface archaeological materials, even in this area where there are known sites that may qualify as unique archaeological resources under CEQA, are dealt with according to regulatory guidance and would minimize the potential risk of impact to archaeological resources to a less-than-significant level.

Through the City's project-level review of individual development project proposals, the City may also consider, *as warranted based on specific characteristics obtained through the project-specific review*, additional approaches to avoiding the potential for damage to accidental discovery of resources. Approaches may include, but not be limited to, an "ALERT Sheet" or similar resource for all contractors and all on-site workers and that has visuals that depict each type of subsurface artifact that could be encountered during soil-disturbing activities; pre-construction briefings of all construction personnel about the type of artifacts that could be encountered on the project site; site-specific, intensive archaeological resources surveys; a qualified archaeologist to monitor all ground-disturbing activities on the project site throughout construction; and/or preparation of an Archaeological Research Design and Treatment Plan (ARDTP) by a qualified archaeologist to specify a data recovery program, which aligns with SCA 52. The City has determined that the potential approaches described above are not warranted in addition to SCA 52 to ensure less-than-significant effects to archaeological resources in the Project Area for this program-level analysis. The impact of development facilitated by the Proposed Amendments to archaeological resources is less than significant.

Mitigation: None Required.

Paleontological Resources

Impact CUL-3: Development facilitated by the Proposed Amendments could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. (Less than Significant)

As discussed above in the paleontological Setting, the paleontological sensitivity of the geologic units underlying the Project Area is low to moderate. Deep excavations for building foundations associated with redevelopment plan activities may disturb these geologic units of low to moderate paleontological sensitivity.

It is possible that fossils would be discovered during excavation within the Project Area. Because the significance of such fossils would be unknown, such an event represents a potentially significant impact to paleontological resources. However, SCA 54, *Paleontological Resources*, would be incorporated with all development that may be facilitated the Proposed Amendments

and would ensure that the potential impact to fossils discovered within the rock units, would be less than significant. No additional mitigation is required.

Mitigation: None Required.

Human Remains

Impact CUL-4: Development facilitated by the Proposed Amendments could disturb human remains, including those interred outside of formal cemeteries. (Less than Significant)

As stated in Impact CUL-2 and in the setting, although unconfirmed, there is a high probability that midden sites in the Project Area may contain human remains. Implementation of SCA 53, *Human Remains*, provides adequate measures for prevention of adverse impacts to human remains that may be discovered with developments facilitated by the Proposed Amendments. Combining with SCA 52 will ensure the impact is reduced to less than significant.

Mitigation: None Required.

Cumulative Impacts

Impact CUL-5: Development facilitated by the Proposed Amendments, combined with cumulative development in the Project Area and citywide, including past, present, existing, approved, pending, and reasonably foreseeable future development, would contribute considerably to a significant adverse cumulative impact to cultural resources. (Significant)

Geographic Context

The geographic context for the assessment of cumulative impacts to cultural resources consists of the Project Area and surroundings, in addition to all parts of the city.

Impacts

The Proposed Amendments, when combined with the cumulative development citywide, could result in cumulative impacts to cultural resources. Cumulative effects could occur to resources beyond the Project Area because cultural resources can include a resource type or theme such as libraries, railroad-related resources, and ethnic sites that occur throughout the city. Past projects in this area are included in the existing setting. Present projects would include any projects currently under construction within the geographic context area. Several past, present and reasonably foreseeable future projects are described in the Major Projects List in Appendix B to this Draft EIR, and discussed in Section 4.07.2, *Cumulative Context*, at the beginning of Chapter 4 of this Draft EIR.

As analyzed throughout this section, development facilitated by the Proposed Amendments could result in significant impacts to cultural resources. Such impacts could combine with the significant impacts of the projects referenced above to form a significant cumulative impact to cultural resources. However, given the applicability of SCAs 52, 53, 54, 56, and 57 to all projects, Mitigation Measure CUL-1 identified above to reduce potential program-level impacts, as well as the mitigation measures identified in the environmental documents for all cumulative projects in downtown Oakland, potentially significant cumulative impacts to cultural resources would under most circumstances be reduced to a less-than-significant level. In addition, past projects have been, and present and reasonably foreseeable future projects would be, subject to development guidance contained within the Historic Preservation Element of the General Plan and other applicable historic preservation zoning controls and landmark ordinances to ensure protection of cultural resources.

There is a possibility that if demolition or major alteration of a historical resource occurs with development facilitated by the Proposed Amendments, and avoidance, adaptive reuse, and appropriate relocation as identified in Mitigation Measure CUL-1 are not feasible, and the same circumstance occurs with other downtown Oakland projects that may likely affect potential historic resources (such as the Broadway/Valdez District Specific Plan and the Lake Merritt Station Area Plan now under consideration), a significant and unavoidable cumulative impact could result, even with the application of site-specific surveys and financial contributions as identified in Mitigation Measure CUL-1 and all SCAs incorporated to all development projects. Based on the information in this section and for the reasons summarized above, development facilitated by the Proposed Amendments could contribute considerably to the cumulative cultural resources impact, which could be considered significant and unavoidable.

Mitigation Measure CUL-2: Implement Mitigation Measure CUL-1.

Significance after Mitigation: Significant and Unavoidable (Historic Resources) for Cumulative Impact.

4.4.5 References

Archeo-tec Inc., *Final Archaeological Sensitivity Study and Testing Program for the Uptown Oakland Project*, 2005.

Archeo-tec Inc., *Archaeological Final Report for the Uptown Oakland Project*, September 2007.

California (State of) Department of Parks and Recreation, Office of Historic Preservation (OHP), *California Inventory of Historic Resources*. State of California, The Resources Agency, Department of Parks and Recreation, Sacramento, 1976 and updates.

California (State of) Department of Parks and Recreation, Office of Historic Preservation (OHP), *California Historical Landmarks*. Office of Historic Preservation, Department of Parks and Recreation, Sacramento, 1990.

- California (State of) Department of Parks and Recreation, Office of Historic Preservation (OHP), *California Points of Historical Interest*, Office of Historic Preservation, Department of Parks and Recreation, Sacramento 1992.
- California (State of) Department of Parks and Recreation, Office of Historic Preservation (OHP), *[Historic Properties Directory]* Directory of Properties in the Historic Property Data file for San Mateo County. Office of Historic Preservation, Department of Parks and Recreation, Sacramento. Update October, 2010.
- City of Oakland, *Historic Preservation Element (HPE) of the City of Oakland General Plan*, adopted March 8, 1994, amended July 21, 1998.
- City of Oakland Planning Department, lists of Local Register properties and PDHPs. Updated as of January 13, 2011.
- Fredrickson, D.A., *Early Cultures of the North Coast Ranges, California*. Unpublished Ph.D. dissertation, University of California, Davis, 1973 (confidential, on file at the Northwest Information Center).
- Graymer, R.H. 2000. Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa and San Francisco Counties, California: U.S. Geological Survey, Miscellaneous Field Studies MF-2342, Version 1 (1:50,000 scale).
- Moratto, M.J., *California Archaeology*. Smithsonian Press: San Diego, CA, 1984.
- Nelson, N.C., *Shellmounds of the San Francisco Bay Region*. University of California Publications, American Archaeology and Ethnology, Vol. 7, No. 4, 1909.
- Northwest Information Center (NWIC) of the California Historical Resources Information System, November 5, 2010.
- University of California Museum of Paleontology Collections (UCMP) Database, accessed online May 13, 2008 at: <http://www.ucmp.berkeley.edu/science/collections.php>
- Waring, George E., Oakland, "Sewer Map of the City of Oakland, showing their sizes and depths, also the grades of street." From Report on the Social Statistics of Cities, United States Census Office, Part I, 1880.
- Way, K. Ross, Site Record for P-01-010532. On file, Northwest Information Center of the California Historical Resources Information System at Sonoma State University, 2000.
- Way, K. Ross, Site Record for P-01-010534. On file, Northwest Information Center of the California Historical Resources Information System at Sonoma State University, 2001a.
- Way, K. Ross, Site Record for P-01-010535. On file, Northwest Information Center of the California Historical Resources Information System at Sonoma State University, 2001b.

4.5 Geology, Soils and Geohazards

This section describes geologic and seismic conditions in the Central District Project Area to provide relevant background information with respect to soils and potential geologic and seismic hazards. Based on the evaluation of geologic and seismic conditions in the project vicinity, potential impacts are discussed and evaluated, and appropriate standard conditions of approval are identified, as necessary.

4.5.1 Environmental Setting

The Project Area is located within the Coast Ranges Geomorphic Province¹ (Coast Ranges), characterized by northwest-southeast-trending mountain ridges and intervening valleys that have formed over millions of years due to movements along major regional faults. The bedrock of the Coast Ranges is primarily composed of ancient seafloor sediments and volcanic rocks. In most areas, these rocks have been significantly hardened, mineralized, folded and fractured by heat and pressure deep within the earth. This bedrock – broadly divided into the Franciscan Complex and Great Valley Sequence – forms most of the hills and mountains of the Bay Area, but may underlie the San Francisco Bay and adjacent plains at depths ranging from 200 to 2,000 feet.

The valleys, plains, estuaries, and bay floors of the region are filled by loose, geologically young deposits of mud, silt, sand and gravel. The character of these deposits varies significantly depending on their origin. For example, the Sacramento and San Joaquin Rivers deliver significant volumes of fine sediments (mud and silt), which slowly accumulate on the margins and floors of the San Pablo and San Francisco Bays where currents are gentle. In contrast, peak winter flows from local creeks and streams often convey pulses of coarse sediment (sand and gravel) to the region's valleys and plains, occasionally reaching estuarine sloughs. Over geologic time scales and with fluctuating sea levels, dominant geologic processes in any one place are always competing, overlapping or changing. Thus, the character of the flatland deposits such as those found beneath the plan area is variable over short distances and depths, producing heterogeneous geologic conditions.

Geology, Soils and Geologic Hazards

The following discussion describes the general geology of the Project Area and identifies potential risks associated with such conditions. The primary sources of information for this section consist of publicly available maps and reports prepared by U.S. Geological Survey (USGS), the California Geological Survey (formerly the California Division of Mines and Geology), and the Natural Resource Conservation Service (NRCS). Maps of topography, bedrock, soil and mineral resources provide the basic setting of the Project Area, and this information is used to describe the geologic hazards most likely to affect development facilitated by the Proposed Amendments.

¹ A geomorphic province is an area that possesses similar bedrock, structure, history, and age. California has 11 geomorphic provinces.

Site Topography

Elevations of the Project Area range from nearly sea level on its southern and eastern boundaries to approximately 60 feet above mean sea level along I-880 in the vicinity of the Broadway and Jackson Street off ramps (USGS, 1959). Generally, the Project Area is flat to slightly sloped, with slope gradients that are generally under five percent. Some bank areas bordering Glen Echo Creek and Lake Merritt may have locally higher slopes. The southeastern portion of the Project Area directly abuts the Oakland Estuary.

Local Geology

The Project Area is underlain by a combination of dune sands, estuarine mud, alluvium, and overlying artificial fills. The majority of the Project Area is underlain by wind-blown dune sands. These deposits are commonly referred to as Merritt Sand and are characterized as loose, well-sorted, fine- to medium-grained sand. The Merritt Sand unit underlies most of the Central Business District, and is likely to be underlain by alluvium and estuarine mud deposits at variable depths. The estuarine mud – also referred to as Bay Mud – is a silty clay that is rich in organic materials and is known to be soft and compressible. In many shoreline locations, humans have historically placed poorly engineered fills over the Bay Mud in order to create buildable areas or dispose of materials excavated from elsewhere. Artificial fills over Bay Mud is extensive as a result of the practice of infilling of the natural Bay margins west of I-880 near downtown Oakland, as well as the shoreline of both San Francisco Bay and Lake Merritt (CGS, 2003). A geologic map compiled by the USGS (2006) shows that much of the areas bordering Lake Merritt and the Oakland Estuary are comprised of artificial fill material overlying natural deposits of Bay Mud.

Soils

The Project Area includes largely developed properties, and as a result the ground surface is generally devoid of natural soils. The U.S. Department of Agriculture NRCS has characterized soils beneath the Project Area as “Urban Land” soils (NRCS, 2010). The NRCS designates soils as urban land when soils have been so altered or obstructed by urbanization—such as buildings, pavement, and cut and fill operations—that identification of the native soils is not feasible. The physical properties of the site’s underlying geology are important factors in assessing the site’s susceptibility to geologic and seismic hazards, discussed below.

Geologic Hazards

The artificial fills and natural geology underlying the Project Area present potential hazards related to soil erosion, settlement, and expansive soil materials. These hazards are discussed below and provide the initial context for further evaluation in the impact analysis. Because the Project Area is flat to nearly-flat, slope-related ground failure (i.e., landslides) is not expected to pose a hazard.

Expansive Soils

Expansive soils possess a “shrink-swell” behavior. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Structural damage may occur over a long period of time, usually as a result of

inadequate soil and foundation engineering or the placement of structures directly on expansive soils. Normally, soils that are expansive contain a significant clay fraction, and thus the Merritt Sand is not likely to exhibit shrink-swell behavior due to its primarily sandy composition. The Bay Mud, however, that presumably underlies much of the area, as well as areas underlain by artificial fill, could potentially be subject to shrink-swell behavior. The actual presence and extent of expansive soils could only be determined as part of site specific geotechnical evaluations for development facilitated by the Proposed Amendments.

Soil Erosion

Erosion is the wearing away of soil and rock by processes, such as mechanical or chemical weathering, mass wasting, and the action of waves, wind and underground water. Excessive soil erosion can eventually lead to damage of building foundations and roadways. Areas that are susceptible to erosion are those that would be exposed during the construction phase of projects and activities facilitated by the Proposed Amendments. Typically, the soil erosion potential is reduced once the soil is graded and covered with concrete, structures, asphalt, or slope protection.

Settlement

Settlement can occur from immediate settlement, consolidation, or shrinkage of expansive soil. Immediate settlement occurs when a load from a structure or placement of new fill material is applied, causing distortion in the underlying materials. This settlement occurs quickly and is typically complete after placement of the final load. Consolidation settlement occurs in saturated clay from the volume change caused by squeezing out water from the pore spaces. Consolidation occurs over a period of time and is followed by secondary compression, which is a continued change in void ratio under the continued application of the load. Rapid settlement can occur if soil is liquefied during an earthquake, an effect which is addressed later in the discussion of Seismic Hazards.

Soils tend to settle at different rates and by varying amounts depending on the load weight or changes in soil properties over an area, which is referred to as differential settlement. The southern and eastern portions of the Project Area are underlain by artificial fills, which vary in thickness and are known to experience consolidation settlement and secondary compression. The majority of the Project Area is underlain by Merritt Sand, which is unlikely to compress significantly over time. In many places, historic bay sloughs, old foundations, and former marsh areas may have been buried by fill material and/or the Merritt Sand, suggesting some area may be subject to variable conditions and are likely to experience some degree of differential settlement.

Regional Faulting and Seismic Hazards

This section characterizes the region's existing faults, describes historic earthquakes, estimates the likelihood of future earthquakes, and describes probable ground-shaking effects. The primary sources of information for this section are publications prepared by United States Geological Survey (USGS), the California Geological Survey (CGS), and hazard mapping tools provided by the Association of Bay Area Governments (ABAG).

Earthquake Terminology and Concepts

Earthquake Mechanisms and Fault Activity

Faults are planar features within the earth's crust that have formed to release stresses caused by the dynamic movements of the earth's major tectonic plates. An earthquake on a fault is produced when these stresses overcome the inherent strength of the earth's crust, and the rock ruptures. The rupture causes seismic waves to propagate through the earth's crust, producing the ground-shaking effect known as an earthquake. The rupture also causes variable amounts of slip along the fault, which may or may not be visible at the earth's surface. It is important to note that faults are pervasive features in rocks, and occur even in areas of little-to-no earthquake activity. This is because over geologic time scales, the areas where tectonic stresses build up are always changing; thus, faults are more often evidence of past tectonic activity than indicators of a current earthquake hazard.

Geologists commonly use the age of offset rocks as evidence of fault activity—the younger the displaced rocks, the more recently earthquakes have occurred. To evaluate the likelihood that a fault will produce an earthquake, geologists examine the magnitude and frequency of recorded earthquakes and evidence of past displacement along a fault. An *active* fault is defined by the State of California as a fault that has had surface displacement within Holocene time (last 11,000 years). For the purpose of delineating fault rupture zones, the California Geological Survey historically defined a *potentially active* fault as a fault that has shown evidence of surface displacement during the Quaternary (last 1.6 million years). However, usage of that term was discontinued because it became apparent that there are so many Quaternary-age faults in the state that it would be meaningless to zone all of them (Bryant and Hart, 2007). In late 1975, the State Geologist made a policy decision to zone only those faults that have a relatively high potential for ground rupture. It was decided that a fault should only be considered for zoning if it is “sufficiently active”² and “well-defined.”³ *Blind* faults do not show surface evidence of past earthquakes, even if they occurred in the recent past; and faults that are confined to pre-Quaternary rocks (more than 1.6 million years old) are considered inactive and incapable of generating an earthquake.

Earthquake Magnitude

When an earthquake occurs along a fault, a characteristic way to measure its size is to measure the energy released during the event. When an earthquake occurs, a network of seismographs records the amplitude and frequency of the seismic waves it generates. The Richter Magnitude (M) for an earthquake represents the highest amplitude measured by the seismograph at a distance of 100 kilometers from the epicenter. Richter magnitudes vary logarithmically with each whole number step representing a ten-fold increase in the amplitude of the recorded seismic waves. While Richter Magnitude was historically the primary measure of earthquake magnitude, seismologists now use Moment Magnitude as the preferred way to measure earthquakes. The

² A fault is deemed sufficiently active if there is evidence of Holocene surface displacement along one or more of its segments or branches. Holocene surface displacement may be directly observable or inferred; it need not be present everywhere along a fault to qualify that fault for zoning.

³ A fault is considered well-defined if its trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The fault may be identified by direct observation or by indirect methods (e.g., geomorphic evidence). The critical consideration is that the fault, or some part of it, can be located in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

Moment Magnitude scale (M_w) is related to the physical characteristics of a fault, including the rigidity of the rock, the size of fault rupture, and the style of movement or displacement across the fault. Although the formulae of the scales are different, they both contain a similar continuum of magnitude values, except that M_w can reliably measure larger earthquakes and can do so from greater distances.

Peak Ground Acceleration

A common measure of ground motion during an earthquake is the peak ground acceleration (PGA). The PGA for a given component of motion is the largest value of horizontal acceleration obtained from a seismograph. PGA is expressed as the percentage of the acceleration due to gravity (g), which is approximately 980 centimeters per second squared. In terms of automobile accelerations, one “ g ” of acceleration is equivalent to the motion of a car traveling 328 feet from rest in 4.5 seconds. For comparison purposes, the maximum peak acceleration value recorded during the Loma Prieta earthquake was in the vicinity of the epicenter, near Santa Cruz, at 0.64 g (ABAG, 2003b). Unlike measures of magnitude, which provide a single measure of earthquake energy, PGA varies from place to place, and is dependent on the distance from the epicenter and the character of the underlying geology (e.g., hard bedrock, soft sediments or artificial fills).

The Modified Mercalli Intensity Scale

The Modified Mercalli Intensity Scale (**Table 4.5-1**) assigns an intensity value based on the observed effects of ground-shaking produced by an earthquake. Unlike measures of earthquake magnitude and PGA, the Modified Mercalli (MM) intensity scale is qualitative in nature (i.e., it is based on actual observed effects rather than measured values). Similar to PGA, MM intensity values for an earthquake at any one place can vary depending on its magnitude, the distance from its epicenter, the focus its energy, and the type of geologic material.

The MM values for intensity range from I (earthquake not felt) to XII (damage nearly total), and intensities ranging from IV to X could cause moderate to significant structural damage. Because the MM is a measure of ground-shaking effects, intensity values can be related to a range of PGA values, also shown in Table 4.5-1.

Seismic Context

The Project Area lies within a region of California that contains many active and potentially active faults and is considered an area of high seismic activity. The USGS along with the California Geological Survey and the Southern California Earthquake Center formed the 2007 Working Group on California Earthquake Probabilities to summarize the probability of one or more earthquakes of magnitude 6.7 or higher occurring in the state of California over the next 30 years. Accounting for the wide range of possible earthquake sources, it is estimated that the Bay Area has a 63 percent chance of experiencing such an earthquake (Working Group on California Earthquake Probabilities, 2008). According to the working group, the individual faults posing the greatest threat to the Bay Area are the Hayward, the San Andreas, and the Calaveras faults. Other principal faults capable of producing large earthquakes in the Bay Area include the Concord–Green Valley, Marsh Creek–Greenville, San Gregorio and Rodgers Creek faults.

**TABLE 4.5-1
MODIFIED MERCALLI INTENSITY SCALE**

Intensity Value	Intensity Description	Average Peak Ground Acceleration^a
I	Not felt except by a very few persons under especially favorable circumstances.	< 0.0017 g
II	Felt only by a few persons at rest, especially on upper floors on buildings. Delicately suspended objects may swing.	0.0017-0.014 g
III	Felt noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motor cars may rock slightly, vibration similar to a passing truck. Duration estimated.	0.0017-0.014 g
IV	During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.	0.014–0.039g
V	Felt by nearly everyone, many awakened. Some dishes and windows broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles may be noticed. Pendulum clocks may stop.	0.035 – 0.092 g
VI	Felt by all, many frightened and run outdoors. Some heavy furniture moved; and fallen plaster or damaged chimneys. Damage slight.	0.092 – 0.18 g
VII	Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motor cars.	0.18 – 0.34 g
VIII	Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motor cars disturbed.	0.34 – 0.65 g
IX	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.	0.65 – 1.24 g
X	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations; ground badly cracked. Rails bent. Landslides considerable from riverbanks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.	> 1.24 g
XI	Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.	> 1.24 g
XII	Damage total. Practically all works of construction are damaged greatly or destroyed. Waves seen on ground surface. Lines of sight and level are distorted. Objects are thrown upward into the air.	> 1.24 g

^a Value is expressed as a fraction of the acceleration due to gravity (g). Gravity (g) is 9.8 meters per second squared. 1.0 g of acceleration is a rate of increase in speed equivalent to a car traveling 328 feet from rest in 4.5 seconds.

SOURCE: ABAG, 2003a

Table 4.5-2 lists the above mentioned faults, their distance and directions from the redevelopment area, and their maximum credible earthquake magnitude. The Hayward, the San Andreas, and the Calaveras faults are briefly described below.

**TABLE 4.5-2
ACTIVE FAULTS IN THE REGION**

Fault	Closest Distance and Direction	Recency of Movement^a	Future Earthquake Probability^b	Historical Seismicity	Maximum Moment Magnitude Earthquake (Mw)^c
Hayward (Northern Section)	2.7 miles northeast	Historic	31% (combined with Rodgers Creek Fault)	M 6.8 in 1868 Many <M 4.5	7.1
Calaveras (Northern Section)	14 miles east	Historic	7%	M 5.6–M 6.4 in 1861 M 6.2, 1911 in 1984	6.8
San Andreas (Peninsula Section)	14.5 miles southwest	Historic	21%	M 7.1 in 1989 M 8.25 in 1906 M 7.0 in 1838 Many <M 6	7.9
San Gregorio	22.5 miles southwest	Holocene	6%	n/a	7.3
Concord–Green Valley (Avon Section)	16 miles northeast	Historic	3%	Historic active creep	6.7
Marsh Creek–Greenville	25 miles East	Historic	3%	M 5.6 in 1980	6.9
Rodgers Creek	26 miles north	Holocene		M 6.7 in 1898 M 5.6 and 5.7 in 1969	7.0

^a From Jenning (2004), historic refers to the post-colonial era (after 1775), the Holocene is from 11,000 years ago to present.

^b Probability of one or more earthquakes of magnitude 6.7 or greater in the next 30 years from the Working Group on California Earthquake Probabilities (2008). The Working Group estimates the probability of a "background" earthquake not from one of the seven major faults studied to be 9%.

^c The Maximum Moment Magnitude Earthquake is derived from the joint CDMG/USGS Probabilistic Seismic Hazard Assessment for the State of California (Peterson et al., 1996).

SOURCES: Hart, 1997; Jennings, 1994; Working Group on California Earthquake Probabilities (2008); Peterson et al., 1996.

Hayward Fault

The Hayward Fault Zone, located as close as 2.7 miles northeast from the Project Area, extends for 60 miles from San Pablo Bay in Richmond south to the San Jose area. The Hayward fault has historically generated one sizable earthquake, in 1868, when a Richter magnitude 7 earthquake on its southern segment ruptured the ground for a distance of about 30 miles (Bryant, 2005). Lateral ground surface displacement during this event was at least 3 feet.

A characteristic feature of the Hayward fault is its well-expressed and relatively consistent fault creep. Although large earthquakes on the Hayward fault have been rare since 1868, slow fault creep has continued to occur and has caused measurable offset. Fault creep on the East Bay segment of the Hayward fault is estimated at 9 millimeters per year (mm/yr) (Peterson, et al., 1996). However, a large earthquake could occur on the Hayward fault with an estimated moment magnitude (Mw) of about Mw 7.1 (Table 4.5-2). The USGS Working Group on California

Earthquake Probabilities (2008) identifies the Hayward–Rodgers Creek Fault Systems as having a 31 percent chance of generating one or more earthquakes of magnitude 6.7 or greater in the next 30 years.

San Andreas Fault

The San Andreas Fault Zone, located as close as 14 miles southwest from the redevelopment area, is a major structural feature that forms at the boundary between the North American and Pacific tectonic plates. It is a strike-slip⁴ fault, extending from the Salton Sea in Southern California near the border with Mexico to north of Point Arena, where the fault trace continues out into the Pacific Ocean. The main trace of the San Andreas Fault through the Bay Area trends northwest from the Santa Cruz Mountains to the western side of the San Francisco Peninsula.

In the San Francisco Bay Area, the San Andreas Fault Zone was the source of the two major earthquakes in recent history that affected the San Francisco Bay region. The 1906 San Francisco earthquake was estimated at M 7.9 and resulted in approximately 290 miles of surface fault rupture, the longest of any known continental strike slip fault. Horizontal displacement along the fault approached 17 feet near the epicenter (Bryant, 2005). The 1989 Loma Prieta earthquake, with a magnitude of Mw 6.9, was centered in the Santa Cruz Mountains and resulted in widespread damage throughout the Bay Area. The USGS Working Group on California Earthquake Probabilities (2008) identifies the San Andreas Fault as having a 21 percent chance of generating one or more earthquakes of magnitude 6.7 or greater in the next 30 years.

Calaveras Fault

The Calaveras fault, located as close as 14.5 miles east from the redevelopment area, is a major right-lateral strike-slip fault that has been active during the last 11,000 years. The Calaveras fault is located in the eastern San Francisco Bay region and generally trends from north to south along the eastern side of the Oakland Hills into the western Diablo Range, eventually joining the San Andreas Fault Zone south of Hollister. The northern extent of the fault zone is somewhat speculative and could be linked with the Concord fault.

There is a distinct change in slip rate and fault behavior north and south of the vicinity of Calaveras Reservoir. North of Calaveras Reservoir, the fault is characterized by a relatively low slip rate of 5-6 mm/yr and sparse seismicity (Bryant, 2005). South of Calaveras Reservoir, the fault zone is characterized by a higher rate of surface fault creep that has been evidenced in historic times. The Calaveras fault has been the source of several moderate magnitude earthquakes, and the probability of a large earthquake (greater than M 6.7) is much lower than on the San Andreas or Hayward faults. The USGS Working Group on California Earthquake Probabilities (2008) identifies the Calaveras fault as having a 7 percent chance of generating one or more earthquakes of magnitude 6.7 or greater in the next 30 years.

⁴ Refers to relative motion on either side of a fault which is primarily horizontal (as opposed to vertical).

Seismic Hazards

The following discussion identifies the seismic hazards for the redevelopment area vicinity and provides the initial context for further evaluation in the impact analysis.

Surface Fault Rupture

Seismically-induced ground rupture is defined as the physical displacement of surface deposits in response to an earthquake's seismic waves. The magnitude, sense, and nature of fault rupture can vary for different faults or even along different strands of the same fault. Ground rupture is considered more likely along active faults, which are referenced in Table 4.5-2. Because the redevelopment area is not crossed by an Alquist-Priolo Fault Rupture Hazard Zone, as designated by the Alquist-Priolo Earthquake Fault Zoning Act, and no active or potentially active faults are known to pass through the redevelopment area, the risk of ground rupture in the area is low.

Ground Shaking

As discussed above, a major earthquake is likely to affect the redevelopment area within the next 30 years, and would produce strong ground-shaking effects throughout the region. Earthquakes on active or potentially active faults, depending on magnitude and distance from the redevelopment area, could produce a range of ground-shaking intensities. Historically, earthquakes have caused strong ground-shaking and damage in the San Francisco Bay Area, the most recent being the M 6.9 Loma Prieta earthquake in October 1989. The epicenter was approximately 46 miles south of the redevelopment area, but this earthquake is estimated to have caused moderate (VI) to very strong (VIII) shaking intensities in the Central District area (ABAG, 2003b). The largest earthquake in Bay Area history was the San Francisco Earthquake of 1906, with an estimated moment magnitude of 7.9. This produced very strong (VIII) to violent (IX) shaking intensities in the Project Area (ABAG, 2003c).

A primary tool that seismologists use to describe ground-shaking hazard is a probabilistic seismic hazard assessment (PSHA). The PSHA for the State of California takes into consideration the range of possible earthquake sources (including such worse-case scenarios as described above) and estimates their characteristic magnitudes to generate a probability map for ground-shaking. The PSHA maps depict values of peak ground acceleration (PGA) that have a 10 percent probability of being exceeded in 50 years (1 in 475 chance). This probability level allows engineers to design buildings for ground motions that have a 90 percent chance of NOT occurring in the next 50-years, making buildings safer than if they were simply designed for the most likely events. The PSHA indicates that at the redevelopment area, there is a 10 percent chance of exceeding PGA values of 0.677g over the next 50 years (Peterson et al., 1996). As indicated in Table 4.5-1, these PGAs could result in considerable damage even in specially designed structures, causing partial collapse of some buildings and damaging underground utilities. The potential hazards related to ground-shaking are discussed further in the Impacts and Mitigation Measures section of this chapter.

Liquefaction

Liquefaction is a transformation of soil from a solid to a liquefied state, during which saturated soil temporarily loses strength resulting from the buildup of excess pore water pressure, especially during earthquake-induced cyclic loading. Soil susceptible to liquefaction includes loose- to medium-density sand and gravel, low-plasticity silt, and some low-plasticity clay deposits. Four kinds of ground failure commonly result from liquefaction: lateral spread, flow failure, ground oscillation, and loss of bearing strength. *Lateral spreading* is the horizontal displacement of surficial blocks of sediments resulting from liquefaction in a subsurface layer that occurs on slopes ranging between 0.3 and 3 percent and commonly displaces the surface by several meters to tens of meters. *Flow failures* occur on slopes greater than 3 degrees and are primarily liquefied soil or blocks of intact material riding on a liquefied subsurface zone. *Ground oscillation* occurs on gentle slopes when liquefaction occurs at depth and no lateral displacement takes place. Soil units that are not liquefied may pull apart from each other and oscillate on the liquefied zone. The *loss of bearing pressure* can occur beneath a structure when the underlying soil loses strength and liquefies. When this occurs, the structure can settle, tip, or even become buoyant and “float” upwards. Liquefaction and associated failures could damage foundations, roads, underground cables and pipelines, and disrupt utility service.

Of particular relevance to the Project Area is the fact that liquefaction can occur in unconsolidated or artificial fill sediments and other reclaimed areas along the margin of San Francisco Bay. The depth to groundwater influences the potential for liquefaction, in that sediments need to be saturated to have a potential for liquefaction. Portions of the Project Area immediately adjacent to the Oakland inner harbor, Glen Echo Creek, and Lake Merritt are likely to have shallow groundwater. Witter et al. (2006) has classified these areas as having a very high liquefaction susceptibility. Other areas underlain by dune sands (Merritt Sand) are considered as having a moderate liquefaction susceptibility. The California Geological Survey (2003), in accordance with the requirements of the Seismic Hazards Mapping Act, has placed the portions of the Project Area underlain by artificial fills and Holocene alluvium as being within a liquefaction hazard zone. The implications of this designation are discussed under the regulatory setting and impact analysis below.

Earthquake-Induced Settlement

Settlement of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid compaction and settling of subsurface materials (particularly loose, uncompacted, and variable sandy sediments above the water table) due to the rearrangement of soil particles during prolonged ground-shaking. Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different amounts). Areas underlain by artificial fill would be susceptible to this type of settlement. Given the geologic setting of the redevelopment area vicinity, this area could be subjected to earthquake-induced settlement, discussed further in the impact analysis to follow.

4.5.2 Regulatory Setting

State

The statewide minimum public safety standard for mitigation of earthquake hazards (as established through the California Building Code (CBC), Alquist-Priolo Earthquake Fault Zoning Act, and the Seismic Hazards Mapping Act) is that the minimum level of mitigation for a project should reduce the risk of ground failure during an earthquake to a level that does not cause the collapse of buildings for human occupancy, but in most cases, is not required to prevent or avoid the ground failure itself. It is not feasible to design all structures to completely avoid damage in worst-case earthquake scenarios. Accordingly, regulatory agencies have generally defined an "acceptable level" of risk as that which provides reasonable protection of the public safety, though it does not necessarily ensure continued structural integrity and functionality of a project [CCR Title 14, Section 3721(a)]. Nothing in these acts, however, precludes lead agencies from enacting more stringent requirements, requiring a higher level of performance, or applying these requirements to developments other than those that meet the acts' definitions of "project."

California Building Code

The CBC has been codified in the California Code of Regulations (CCR) as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The CBC is based on the International Building Code. The 2007 CBC is based on the 2006 International Building Code (IBC) published by the International Code Conference. In addition, the CBC contains necessary California amendments which are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion into building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Public Resources Code, Chapter 7.8, Section 2690-2699.6) was developed to reduce the threat to public safety and to minimize the loss of life and property by identifying and mitigating ground failure caused by strong earthquakes, namely liquefaction and slope failure. While this Act pertains to seismic hazards, they are not the same as the fault surface rupture hazard regulated by the Alquist-Priolo Special Studies Zone Act of 1972. The Seismic Hazards Mapping Act requires the State Geologist to delineate seismic hazard zones, also known as “zones of required investigation”, where regional (that is, not site-specific) information suggests that the probability of a hazard requiring mitigation is great enough to warrant a site-specific investigation. The fact that a site lies outside a zone of required investigation does not necessarily mean that the site is free from seismic or other geologic hazards. Where a project—defined by the act as any structures for human occupancy or any subdivision of land that contemplates the eventual construction of structures for human occupancy—is within a zone of required investigation, lead agencies must apply minimum criteria for project approval. The most basic criteria for project approval are that the owner/developer adequately demonstrates seismic hazards at the site have been evaluated in a geotechnical report, that appropriate mitigation measures have been proposed, and that the lead agency has independently reviewed the adequacy of the hazard evaluation and proposed mitigation measures. Both the geotechnical report and the independent review must be performed by a certified engineering geologist or registered civil engineer. These criteria, along with seismic hazard evaluation and mitigation standards, are outlined in California Geological Survey Special Publication 117A, revised and re-adopted in September of 2008 by the State Mining and Geology Board (CGS, 2008).

City of Oakland Regulations

Ordinances and Oakland Municipal Code

The City of Oakland implements the following regulations and ordinances aimed at reducing soil erosion and protecting water quality and water resources:

The City’s Grading Ordinance (Ordinance No. 10312) is intended to reduce erosion during grading and construction activities. Pursuant to this ordinance, Chapter 13.16 of the Oakland Municipal Code requires that a project applicant obtain grading permits for earth moving activities under specified conditions of 1) volume of earth to be moved, 2) slope characteristics, 3) areas where "land disturbance" or 4) stability problems have been reported. To obtain a grading permit, a project applicant must prepare and submit to the Public Works Agency a soils report, a grading plan, and an erosion and sedimentation control plan for approval (Oakland Municipal Code, 2008).

The City also implements the Sedimentation and Erosion Control Ordinance (Ordinance No. 10446) also aimed at reducing erosion during construction and operations. As a condition of development or redevelopment, the Chief of Building Services or his or her designee may require implementation of continuous or post construction best management practices such as good housekeeping practices or storm water treatment systems (Oakland Municipal Code, 2008).

Building Services Division

In addition to compliance with building standards set forth by the 2006 IBC and 2007 CBC, a project applicant would be required to submit to the Oakland Building Services Division an engineering analysis accompanied by detailed engineering drawings for review and approval prior to excavation, grading, or construction activities on a project site. Specifically, an engineering analysis report and drawings of relevant grading or construction activities on a project site would be required to address constraints and incorporate recommendations identified in geotechnical investigations. These required submittals and City reviews ensure that the buildings are designed and constructed in conformance with the seismic and other requirements of all applicable building code regulations, pursuant to standard City of Oakland procedures.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

In addition to compliance with building standards set forth by the 2006 IBC and 2007 CBC, a Project applicant will be required to submit to the Oakland Building Services Division an engineering analysis accompanied by detailed engineering drawings for review and approval prior to excavation, grading, or construction activities on a project Site. Specifically, an engineering analysis report and drawings of relevant grading or construction activities on a project Site would be required to address constraints and incorporate recommendations identified in geotechnical investigations. These required submittals and City reviews ensure that the buildings are designed and constructed in conformance with the seismic and other requirements of all applicable building code regulations, pursuant to standard City of Oakland procedures.

The City of Oakland's SCAs relevant to reducing geologic and seismic impacts due to the development facilitated by the Proposed Amendments are listed below. If the development facilitated by the Proposed Amendments are approved by the City, then all applicable SCA would be adopted as conditions of approval and required of the development facilitated by the Proposed Amendments to help ensure less-than-significant impacts from geologic and seismic conditions. The SCA are incorporated and required as part of the development facilitated by the Proposed Amendments, so they are not listed as mitigation measures.

- **SCA 55 (also included in Hydrology): Erosion and Sedimentation Control Plan**

Prior to any grading activities. The project applicant shall obtain a grading permit if required by the Oakland Grading Regulations pursuant to Section 15.04.780 of the Oakland Municipal Code. The grading permit application shall include an erosion and sedimentation control plan for review and approval by the Building Services Division. The erosion and sedimentation control plan shall include all necessary measures to be taken to prevent excessive stormwater runoff or carrying by stormwater runoff of solid materials on to lands of adjacent property owners, public streets, or to creeks as a result of conditions created by grading operations. The plan shall include, but not be limited to, such measures as short-term erosion control planting, waterproof slope covering, check dams, interceptor ditches, benches, storm drains, dissipation structures, diversion dikes, retarding berms and barriers, devices to trap, store and filter out sediment, and stormwater retention basins. Off-site work by the project applicant may be necessary. The project applicant shall obtain permission or easements necessary for off-site work. There shall be a clear notation that the plan is subject to changes as changing conditions occur. Calculations of anticipated stormwater

runoff and sediment volumes shall be included, if required by the Director of Development or designee. The plan shall specify that, after construction is complete, the project applicant shall ensure that the storm drain system shall be inspected and that the project applicant shall clear the system of any debris or sediment.

Ongoing throughout grading and construction activities. The project applicant shall implement the approved erosion and sedimentation plan. No grading shall occur during the wet weather season (October 15 through April 15) unless specifically authorized in writing by the Building Services Division.

- **SCA 57 (also included in Cultural Resources and Noise): Vibrations Adjacent to Historic Structures**

Prior to issuance of a demolition, grading or building permit. The project applicant shall retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that could damage nearby historic structures (as described in Section 4.4, *Cultural Resources*), and design means and methods of construction that shall be utilized to not exceed the thresholds.

- **SCA 58: Soils Report**

Required as part of the submittal of a Tentative Tract or Tentative Parcel Map. A preliminary soils report for each construction site within the project area shall be required as part of this project and submitted for review and approval by the Building Services Division. The soils reports shall be based, at least in part, on information obtained from on-site testing. Specifically the minimum contents of the report should include:

1. Logs of borings and/or profiles of test pits and trenches:
 - a. The minimum number of borings acceptable, when not used in combination with test pits or trenches, shall be two (2), when in the opinion of the Soils Engineer such borings shall be sufficient to establish a soils profile suitable for the design of all the footings, foundations, and retaining structures.
 - b. The depth of each boring shall be sufficient to provide adequate design criteria for all proposed structures.
 - c. All boring logs shall be included in the soils report.
2. Test pits and trenches
 - a. Test pits and trenches shall be of sufficient length and depth to establish a suitable soils profile for the design of all proposed structures.
 - b. Soils profiles of all test pits and trenches shall be included in the soils report.
3. A plat shall be included which shows the relationship of all the borings, test pits, and trenches to the exterior boundary of the site. The plat shall also show the location of all proposed site improvements. All proposed improvements shall be labeled.
4. Copies of all data generated by the field and/or laboratory testing to determine allowable soil bearing pressures, sheer strength, active and passive pressures, maximum allowable slopes where applicable and any other information which may be required for the proper design of foundations, retaining walls, and other structures to be erected subsequent to or concurrent with work done under the grading permit.

5. A written Soils Report shall be submitted which shall include but is not limited to the following:
 - a. Site description
 - b. Local and site geology
 - c. Review of previous field and laboratory investigations for the site
 - d. Review of information on or in the vicinity of the site on file at the Information Counter, City of Oakland, Office of Planning and Building.
 - e. Site stability shall be addressed with particular attention to existing conditions and proposed corrective attention to existing conditions and proposed corrective actions at locations where land stability problems exist.
 - f. Conclusions and recommendations for foundations and retaining structures, resistance to lateral loading, slopes, and specifications, for fills, and pavement design as required.
 - g. Conclusions and recommendations for temporary and permanent erosion control and drainage. If not provided in a separate report they shall be appended to the required soils report.
 - h. All other items which a Soils Engineer deems necessary.
 - i. The signature and registration number of the Civil Engineer preparing the report.
6. The Director of Planning and Building may reject a report that she/he believes is not sufficient. The Director of Planning and Building may refuse to accept a soils report if the certification date of the responsible soils engineer on said document is more than three years old. In this instance, the Director may require that the old soils report be recertified, that an addendum to the soils report be submitted, or that a new soils report be provided.

- **SCA 59: Geotechnical Report**

Prior to required as part of the submittal of a tentative Tract Map or tentative Parcel Map.

1. A site-specific, design level geotechnical investigation for the construction site within the project area (which is typical for any large, phased development project) shall be required as part of this project. Specifically:
 - i. Each investigation shall include an analysis of expected ground motions at the site from identified faults. The analyses shall be accordance with applicable City ordinances and polices, and consistent with the most recent version of the California Building Code, which requires structural design that can accommodate ground accelerations expected from identified faults.
 - ii. The investigations shall determine final design parameters for the walls, foundations, foundation slabs, surrounding related improvements, and infrastructure (utilities, roadways, parking lots, and sidewalks).
 - iii. The investigations shall be reviewed and approved by a registered geotechnical engineer. All recommendations by the project engineer, geotechnical engineer, shall be included in the final design, as approved by the City of Oakland.
 - iv. The geotechnical report shall include a map prepared by a land surveyor or civil engineer that shows all field work and location of the “No Build” zone.

The map shall include a statement that the locations and limitations of the geologic features are accurate representations of said features as they exist on the ground, were placed on this map by the surveyor, the civil engineer or under their supervision, and are accurate to the best of their knowledge.

- v. Recommendations that are applicable to foundation design, earthwork, and site preparation that were prepared prior to or during the projects design phase, shall be incorporated in the project.
- vi. Final seismic considerations for the site shall be submitted to and approved by the City of Oakland Building Services Division prior to commencement of the project.
- vii. A peer review is required for the Geotechnical Report. Personnel reviewing the geologic report shall approve the report, reject it, or withhold approval pending the submission by the applicant or subdivider of further geologic and engineering studies to more adequately define active fault traces.

Tentative Tract or Parcel Map approvals shall require, but not be limited to, approval of the Geotechnical Report.

- **SCA 61: Site Review by the Fire Services Division**

Prior to issuance of any demolition, grading or building permit. The project applicant shall submit plans for site review and approval to the Fire Prevention Bureau Hazardous Materials Unit. Property owner may be required to obtain or perform a Phase II hazard assessment.

- **SCA 68: Best Management Practices for Soil and Groundwater Hazards**

The project applicant shall implement all of the following Best Management Practices (BMPs) regarding potential soil and groundwater hazards:

- a) Soil generated by construction activities shall be stockpiled onsite in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Specific sampling and handling and transport procedures for reuse or disposal shall be in accordance with applicable local, state and federal agencies laws, in particular, the Regional Water Quality Control Board (RWQCB) and/or the Alameda County Department of Environmental Health (ACDEH) and policies of the City of Oakland.
- b) Groundwater pumped from the subsurface shall be contained onsite in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies of the City of Oakland, the RWQCB and/or the ACDEH. Engineering controls shall be utilized, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building (pursuant to the Standard Condition of Approval regarding Radon or Vapor Intrusion from Soil and Groundwater Sources);
- c) Prior to issuance of any demolition, grading, or building permit, the applicant shall submit for review and approval by the City of Oakland, written verification that the appropriate federal, state or county oversight authorities, including but not limited to the RWQCB and/or the ACDEH, have granted all required clearances and confirmed that the all applicable standards, regulations and conditions for all previous

contamination at the site. The applicant also shall provide evidence from the City's Fire Department, Office of Emergency Services, indicating compliance with the Standard Condition of Approval requiring a Site Review by the Fire Services Division pursuant to City Ordinance No. 12323, and compliance with the Standard Condition of Approval requiring a Phase I and/or Phase II Reports.

4.5.3 Impacts and Mitigation Measures

Significance Criteria

Development facilitated by the Proposed Amendments would have a significant impact on the environment if it would:

- Expose people or structures to substantial risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or Seismic Hazards Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
 - Strong seismic ground shaking;
 - Seismic-related ground failure, including liquefaction, lateral spreading, subsidence, collapse; or
 - Landslides.
- Result in substantial soil erosion or loss of topsoil, creating substantial risks to life, property, or creeks/waterways;
- Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code, creating substantial risks to life or property;
- Be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property;
- Be located above landfills for which there is no approved closure and post-closure plan, or unknown fill soils, creating substantial risks to life or property ; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater

Approach to Analysis

Based on the Project Area and its geographical location, development facilitated by the Proposed Amendments would not result in impacts related to the following criteria. No impact discussion is provided for these topics for the following reasons:

- *Fault Rupture*. The faults most susceptible to earthquake rupture are active faults, which are faults that have experienced surface displacement within the last 11,000 years. There are no active faults that cross the Project Area, and the nearest active fault is more than two miles away. Therefore, the potential for fault rupture to affect the development facilitated by the Proposed Amendments are very low.

- *Landslides*. The Plan area does not contain slopes that are susceptible to landslides or slope failure. The gentle sloping topography of the area puts the potential for landslides or slope failure to affect any of the proposed development or redevelopment in the Project Area as very low and is therefore not discussed further. However, discussion on earthquake-induced ground failure is provided in Impact GEO-1.
- *Wastewater Disposal*. The Project Area is located within an urban area where all development will be able to tie into existing wastewater infrastructure. Therefore, none of the development or redevelopment will require the use of septic or other alternative disposal wastewater systems, and therefore no impact is associated with this hazard.
- *Substantial soil erosion or loss of topsoil*. Chapter 4.7, Hydrology and Water Quality, discusses soil erosion and its effect on water quality. This criterion focuses more on the potential for excessive or accelerated erosion to undermine building foundations. Measures to reduce soil erosion during construction for water quality purposes would effectively prevent excessive rilling or rutting of soil on construction sites (see Chapter 4.7). The Project Area is in a developed urban area that is paved or landscaped, and served by a storm drain system. Therefore there would be no impact from excessive erosion on foundations or utilities.

Impacts

Impact GEO-1: Development facilitated by the Proposed Amendments could expose people or structures to seismic hazards such as ground shaking and seismic-related ground failure such as liquefaction, differential settlement, or lateral spread. (Less than Significant)

As discussed in Chapter 3, Project Description, the purpose of the Proposed Amendments are to assist in the improvement of the Project Area by redevelopment and private reinvestment, to correct health and safety concerns, and to address economic and physical blight conditions. The City has been, and continues to plan to facilitate various types of programs, projects, and activities to achieve the objectives of the Proposed Amendments. These include facilitating new urban developments, renovating existing structures, park maintenance and improvement, parking facilities, and improving the appearance of the central district through streetscape and façade improvements. These activities are generally similar to those currently being implemented; however, the development facilitated by the Proposed Amendments (the 17th amendment to this plan) includes the changes resulting from implementation of an additional 10 years of redevelopment activities and tax increment funding.

The development facilitated by the Proposed Amendments could add as many as 3,800 housing units as well as numerous retail and office spaces to the Project Area between 2012 through 2023. If projects and activities facilitated by the Proposed Amendments are not properly designed or constructed, they have the potential to increase the exposure of people to injury or harm during a large regional earthquake. As discussed in the setting, the Project Area could be subject to very strong ground shaking, capable of causing considerable damage to well-built structures, causing partial collapse of older buildings (e.g., soft-story buildings, and those built of unreinforced masonry) and damaging underground utilities. In addition, portions of the Project Area near Lake Merritt, Glen Echo Creek, and the Oakland inner harbor are located over soils susceptible to

liquefaction, which substantially increases the potential damage incurred by structures and utility lines in the event of an earthquake. These hazards must be properly evaluated and mitigated for as specific projects are implemented within the Project Area.

As described in the regulatory setting, proposed developments would be required to comply with the Seismic Hazards Mapping Act (in liquefaction hazard zones) and with the California Building Code. These laws require development projects to demonstrate that (1) soil conditions are known and that foundations have been designed according to the proper seismic design category and (2) that the risk of liquefaction and other ground failures has been evaluated and that appropriate mitigation measures, if necessary, have been incorporated into project design. Proposed developments located wholly or partly within a Seismic Hazard Zone for liquefaction, such as Broadway / Valdez Triangle and Victory Court, would be required to comply with CGS guidelines for evaluating and mitigating seismic hazards (Special Publication 117A) (CGS, 2008).

To ensure compliance with these laws, as well as the seismic requirements of the City of Oakland Building Code, the City requires owners/developers to prepare a soils report and geotechnical report for proposed developments that include generally accepted and appropriate engineering techniques for determining the susceptibility of the project site to various geologic and seismic hazards. These requirements are implemented through uniformly-applied Standard Conditions of Approval (SCA) (City of Oakland, 2008), consistent with General Plan Policies. The geotechnical report (SCA 59, *Geotechnical Report*) would include an analysis of ground shaking effects, liquefaction potential, and provide recommendations to reduce these hazards. Owners/developers of development facilitated by the Proposed Amendments would be required to submit an engineering analysis accompanied by detailed engineering drawings to the City of Oakland Building Services Division prior to excavation, grading, or construction activities on a project site. Geotechnical and seismic design criteria would conform to engineering recommendations consistent with the seismic requirements set forth in the California Code of Regulations, Title 24, California Building Standards Code in effect at the time of permit application.

Further, development facilitated by the Proposed Amendments would be required to complete (or in some cases already have completed) project-level environmental review pursuant to the California Environmental Quality Act (CEQA), as needed and appropriate. The potential impacts related to geology, soils and geohazards resulting from construction and operation of specific projects would be analyzed at a greater level of detail, taking into account the project's unique geologic conditions and structural components. The requirements of the CBC, Seismic Hazards Mapping Act, and Oakland's standard conditions of approval would ensure that new developments facilitated by the Proposed Amendments do not expose people or structures to an unacceptable level of risk⁵ during a large regional earthquake.

It is important to ensure that projects facilitated by the Proposed Amendments involving addition of housing or office spaces to *existing* structures occur in structures that are seismically sound. The Central District is an older part of Oakland that contains many areas that were built-up prior

⁵ An "acceptable level" of risk means that which provides reasonable protection of the public safety, though it does not necessarily ensure continued structural integrity and functionality of the project [CCR Title 14, Section 3721(a)].

to the development of modern building codes. Buildings constructed of unreinforced masonry have been widely recognized for experiencing life safety hazardous damage including partial or total collapse during moderate to strong earthquakes. Further, buildings subject to the Oakland Building Code prior to November 26, 1948 (the effective date of the building code requiring earthquake resistant design of buildings) may present an unacceptable level of risk to the residents during an earthquake. Implementation of SCA 58, *Soils Report*, and SCA 59, *Geotechnical Report*, and application of the city's building and grading codes occur as part of submittal of development plans; or projects involving excavation, grading, or construction. Any modification of a structure would require a building permit, and if the structure is out of seismic code, then it would require upgrades before a permit is issued. Under the Section 3406.1 of the CBC, however, any project that would place a building in a different occupancy category or use-type would be required to comply with the current CBC code applicable to the new use or occupancy category. This ensures that buildings that may be seismically unsound would be required to retrofit prior to approval of use changes or changes in occupancy levels.

Mitigation: None Required.

Impact GEO-2: Development facilitated by the Proposed Amendments could be subjected to geologic hazards, including expansive soils, subsidence, seismically induced settlement and differential settlement. (Less than Significant)

Soils containing a high percentage of clays are generally most susceptible to expansion. Expansive soils can damage foundations of above-ground structures, paved roads and streets, and concrete slabs. As discussed in the setting, soils that are expansive contain a significant clay fraction, and thus the Merritt Sand is not likely to exhibit shrink-swell behavior due to its primarily sandy composition. The Bay Mud that presumably underlies much of the area, as well as areas underlain by artificial fill, could potentially be subject to shrink-swell behavior. Further settlement and differential settlement could affect portions of the Redevelopment Area. Much of the area underlain by Merritt Sand, which is unlikely to compress significantly over time, however, larger buildings may put loads on underlying geologic layers of mud and silt that could compress. Places near the Oakland inner harbor are mapped as artificial fills, which may be underlain by historic bay sloughs, old foundations, and former marsh areas. These areas, including the Victory Court project, are likely to experience some degree of differential settlement, and particular care will be needed to ensure soils and foundations are properly engineered.

As development facilitated by the Proposed Amendments are further developed, they will undergo project-level CEQA review as needed and appropriate, which will further determine the potential for soil constraints to affect proposed developments. In addition, as discussed in Impact GEO-1, the City of Oakland imposes standard conditions of approval requiring proposed developments to conduct a soil reports (SCA 58) and geotechnical studies (SCA 59). These conditions of approval would ensure that construction methods and building designs are in place to overcome problematic soils (such methods typically involve soil removal and replacement, or

special foundation design). Standard conditions of approval would ensure that structures are protected from expansive soil and settlement concerns.

Mitigation: None Required.

Cumulative Impacts

Impact GEO-3: Development facilitated by the Proposed Amendments, when combined with other past, present, existing, approved, pending and reasonably foreseeable development in the vicinity, would not result in significant cumulative impacts with respect to geology, soils or seismicity. (Less than Significant)

Geographic Context

Although the entire Bay Area is situated within a seismically active region with a wide range of geologic and soil conditions, these conditions can vary widely within a short distance, making the cumulative context for potential impacts resulting from exposing people and structures to related risks one that is more localized or even site-specific. Potential cumulative geology and seismic impacts do not extend far beyond a project's boundaries, since such geological impacts are typically confined to discrete spatial locations and do not combine to create an extensive cumulative impact. The exception to this generalization would occur where a large geologic feature (e.g., fault zone, massive landslide) might affect an extensive area, or where the development effects from the development facilitated by the Proposed Amendments could affect the geology of an off-site location. These circumstances are not likely to occur in the Project Area as there are no large landslide features or fault zones. The development facilitated by the Proposed Amendments are located near, or encompasses other development and has the opportunity to combine with structural damage from other past, present, and reasonably foreseeable future projects. These include but are not limited to projects listed in the Major Projects List in Appendix B to this Draft EIR, as well as other cumulative development considered, as discussed in Section 4.07.2, *Cumulative Context*, at the beginning of Chapter 4 of this Draft EIR.

Impacts

During the early part of the 1900s, nonprofit organizations developed model building codes used throughout the United States. Although these regional code developments were effective and responsive to regulatory needs, the time came for a single set of codes. The International Code Council was established as a nonprofit organization dedicated to developing a single set of comprehensive and coordinated national model construction codes, now known as the Uniform Building Code. Within California, additional state requirements were added to the UBC to form the California Model Building Codes. Localities, such as the City of Oakland, may adopt additional amendments to the CBC through local ordinance. The trend in building codes has been increased rigor in the design and implementation requirements for geotechnical and seismic safety. These requirements, as specified by state and local regulation with the adoption of the

CBC and amendments, have progressively become more rigorous in requirements mandating a greater reduction of risk to life, health, and safety, and minimized seismic risk.

The cumulative analysis considers the development facilitated by the Proposed Amendments combined with other past, present, existing, pending and reasonably foreseeable projects. Many existing buildings (i.e., past projects) in the surrounding area have been built in accordance with building code requirements for geotechnical and seismic safety in effect at the time of building construction. Present, pending and future projects (such as City Center and 1100 Broadway) within the Project Area are subject to these enhanced requirements and result in reduced geologic and seismic hazards. As present and future projects replace aging infrastructure and older structures with new, more rigorously regulated projects, the potential for cumulative seismic risks is incrementally reduced over time.

The SCAs discussed above, including appropriate grading requirements, and compliance with the UBC as locally amended would reduce the potential for cumulative geologic and seismic effects from the Project Area and surrounding area. Therefore, implementation of the development facilitated by the Proposed Amendments together with the impact of past, present, existing, pending and reasonably foreseeable future development would not result in any significant cumulative geologic and seismic impacts. Moreover, given that the development facilitated by the Proposed Amendments will remove older structures and replace them with new structures that must comply with current and future building code requirements for geologic and seismic safety, the development facilitated by the Proposed Amendments would not make any considerable contribution to any potential cumulative impact, because it will improve geologic and seismic safety in the Project Area. The impact would be less than significant.

Mitigation: None Required.

4.5.4 References

Association of Bay Area Governments (ABAG), *Modified Mercalli Intensity Scale*, available at <http://www.abag.ca.gov/bayarea/eqmaps/doc/mmi.html>, October 15, 2003a.

Association of Bay Area Governments (ABAG), *Modeled Shaking Intensity for North Oakland, Piedmont, Emeryville: 1989 Loma Prieta Earthquake*, <http://www.abag.ca.gov/cgi-bin/pickmapx.pl>. October 20, 2003b.

Association of Bay Area Governments (ABAG), *Modeled Shaking Intensity for North Oakland, Piedmont, Emeryville: 1906 San Francisco Earthquake*, <http://www.abag.ca.gov/cgi-bin/pickmapx.pl>. October 20, 2003c.

Association of Bay Area Governments (ABAG), *Earthquake Shaking Scenario for North and South Hayward Fault, Magnitude 6.9*, http://gis.abag.ca.gov/output/NorthSouthHayward_hazard_gis44562876125.pdf. October 20, 2003d.

- Bryant, W. A. (compiler), *Digital Database of Quaternary and Younger Faults from the Fault Activity Map of California, version 2.0*, California Geological Survey Web Page, http://www.consrv.ca.gov/CGS/information/publications/QuaternaryFaults_ver2.htm, accessed 4/13/2009, 2005.
- Bryant, W.A. and Hart, E. W., *Fault-Rupture Hazard Zones in California: Alquist-Priolo Special Studies Zones Act of 1972 with Index to Earthquake Fault Zones Maps*, Interim Revision, California Division of Mines and Geology, Special Publication 42, 1990, revised and updated 2007.
- California Geological Survey (CGS), *Seismic Hazard Zone Report for the Oakland West 7.5-Minute Quadrangle, Alameda County, California*, Seismic Hazard Zone Report 080, Department of Conservation, 2003
- California Geological Survey (CGS), *Guidelines for Evaluating and Mitigating Seismic Hazards in California*, Special Publication 117A, 2008.
- City of Alameda, *1991 City of Alameda General Plan*, 1991
- Jennings, C. W., *Fault Activity Map of California and Adjacent Areas*, California Division of Mines and Geology Data Map No. 6, 1:750,000, 1994.
- Natural Resources Conservation Service (NRCS), *Web Soil Survey*. Available online at <http://websoilsurvey.nrcs.usda.gov> accessed on April 10, 2009.
- Peterson, M.D., Bryant, W.A., Cramer, C.H., *Probabilistic Seismic Hazard Assessment for the State of California*, California Division of Mines and Geology Open-File Report issued jointly with U.S. Geological Survey, CDMG OFR 96-08 and USGS OFR 96-706, 1996 (updated in 2003).
- Stinson, M. C., M. W. Manson, J. J. Plappert, and others, *Mineral Land Classification: Aggregate Materials in the San Francisco-Monterey Bay Area, Part II, Classification of Aggregate Resource Areas South San Francisco Bay Production-Consumption Region*, California Division of Mines and Geology Special Report 146, 1982.
- United States Geological Survey, *7.5-Minute Quadrangle, Oakland West*, 1959, photo revised, 1980.
- Witter R.C., Knudsen K.L., Sowers J.M., Wentworth C.M., Koehler R.D., and Randolph C.E., *Maps of Quaternary Deposits and Liquefaction Susceptibility in the Central San Francisco Bay Region, California*, Digital Database by Wentworth C.M., Brooks S.K., and Gans K.D. United States Geological Survey, Open File Report 06-1037, 2006.
- Working Group on California Earthquake Probabilities, *The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2)*, U.S. Geological Survey Open-File Report 2007-1437 and California Geological Survey Special Report 203, <http://pubs.usgs.gov/of/2007/1437/>, 2008.

4.6 Greenhouse Gases and Climate Change

This section presents an overview of region-specific information related to greenhouse gases (GHG), including a description of current air quality conditions in the vicinity of the Project Area and sensitive land uses that could be affected by air pollution. The impact analysis discusses the expected emissions associated with development facilitated by the Proposed Amendments, evaluates potential effects on sensitive receptors in the vicinity, and includes appropriate City Standard Conditions of Approval (SCAs). Mitigation measures are identified for significant effects, followed by identification of the residual impact significance after mitigation measures are implemented. An analysis of the development facilitated by the Proposed Amendments' contribution to global climate change and GHG emissions is also included at the end of this section.

4.6.1 Physical Setting for GHG Emissions and Climate Change

There is a general scientific consensus that global climate change is occurring, caused in whole or in part, by increased emissions of GHGs that keep the Earth's surface warm by trapping heat in the Earth's atmosphere (USEPA, 2000), in much the same way as glass in a greenhouse. While many studies show evidence of warming over the last century and predict future global warming, the precise causes of such warming and its potential effects are far less certain.¹ While the greenhouse effect is responsible for maintaining a habitable climate on Earth, human activity has caused increased concentrations of these gases in the atmosphere, contributing to an increase in global temperatures and alterations of climactic conditions.

The USEPA has recently concluded that scientists have a good understanding of the following relationship and data supporting the following:

- “Human activities are changing the composition of Earth's atmosphere. Increasing levels of greenhouse gases like carbon dioxide (CO₂) in the atmosphere since pre-industrial times are well-documented.”
- The atmospheric buildup of CO₂ and other greenhouse gases is largely the result of human activities such as the burning of fossil fuels.
- A warming trend of approximately 0.7 to 1.5°F occurred during the 20th century. Warming occurred in both the northern and southern hemispheres, and over the oceans.
- “The key greenhouse gases emitted by human activities remain in the atmosphere for periods ranging from decades to centuries.” It is therefore virtually certain that atmospheric concentrations of greenhouse gases will continue to rise over the next few decades. Increasing greenhouse gas concentrations tend to warm the planet. (USEPA, 2000)

¹ “Global climate change” is a broad term used to describe any worldwide, long-term change in the earth's climate. “Global warming” is more specific and refers to a general increase in temperatures across the earth, although it can cause other climatic changes, such as a shift in the frequency and intensity of weather events and even cooler temperatures in certain areas, even though the world, on average, is warmer.

At the same time, there is much uncertainty concerning the magnitude and rate of the warming. Specifically, the USEPA notes that “important scientific questions remain about how much warming will occur; how fast it will occur; and how the warming will affect the rest of the climate system, including precipitation patterns and storms. Answering these questions will require advances in scientific knowledge in a number of areas:

- Improving understanding of natural climatic variations, changes in the sun’s energy, land-use changes, the warming or cooling effects of pollutant aerosols, and the impacts of changing humidity and cloud cover.
- Determining the relative contribution to climate change of human activities and natural causes.
- Projecting future greenhouse emissions and how the climate system will respond within a narrow range.
- Improving understanding of the potential for rapid or abrupt climate change.” (USEPA, 2000)

Greenhouse Gases (GHGs)

Carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) are the principal GHGs, and when concentrations of these gases exceed natural concentrations in the atmosphere, the greenhouse effect may be enhanced. CO₂, CH₄ and N₂O occur naturally, but are also generated through human activity. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills. Other human generated GHGs, which have much higher heat-absorption potential than CO₂, include fluorinated gases such as hydrofluorocarbons (HFCs), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆) which are byproducts of certain industrial processes.

Potential Effects of Human Activity on GHG Emissions

Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO₂ emissions (and thus substantial increases in atmospheric concentrations). In 1994, atmospheric CO₂ concentrations were found to have increased by nearly 30 percent above pre-industrial (c.1860) concentrations.

The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential (GWP),² and is expressed as a function of how much warming would be caused by the same mass of CO₂. Thus, GHG emissions are typically measured in terms of pounds or tons of CO₂e.

² The potential of a gas or aerosol to trap heat in the atmosphere.

Global Emissions

Worldwide emissions of GHGs in 2004 were 30 billion tons of CO₂e per year (UNFCCC, 2007) (including both ongoing emissions from industrial and agricultural sources, but excluding emissions from land-use changes).

U.S. Emissions

In 2004, the United States emitted about 8 billion tons of CO₂e or about 25 tons/year/person. Of the four major sectors nationwide — residential, commercial, industrial and transportation — transportation accounts for the highest fraction of GHG emissions (approximately 35 to 40 percent); these emissions are entirely generated from direct fossil fuel combustion (USEPA, 2000).

State of California Emissions

In 2004, California emitted approximately 550 million tons of CO₂e, or about six percent of the U.S. emissions. This large number is due primarily to the sheer size of California compared to other states. By contrast, California has one of the fourth lowest per capita GHG emission rates in the country, due to the success of its energy-efficiency and renewable energy programs and commitments that have lowered the State's GHG emissions rate of growth by more than half of what it would have been otherwise (California Energy Commission [CEC], 2007). Another factor that has reduced California's fuel use and GHG emissions is its mild climate compared to that of many other states.

The California Environmental Protection Agency (EPA) Climate Action Team stated in its March 2006 report that the composition of gross climate change pollutant emissions in California in 2002 (expressed in terms of CO₂ equivalence) were as follows:

- Carbon dioxide (CO₂) accounted for 83.3 percent;
- Methane (CH₄) accounted for 6.4 percent;
- Nitrous oxide (N₂O) accounted for 6.8 percent; and
- Fluorinated gases (HFCs, PFC, and SF₆) accounted for 3.5 percent (CalEPA, 2006).

The CEC found that transportation is the source of approximately 41 percent of the State's GHG emissions, followed by electricity generation (both in-state and out-of-state) at 23 percent, and industrial sources at 20 percent. Agriculture and forestry is the source of approximately 8.3 percent, as is the source categorized as "other," which includes residential and commercial activities (CEC, 2007).

Bay Area Emissions

In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of the Bay Area's GHG emissions, accounting for just over half of the Bay Area's 85 million tons of GHG emissions in 2002. Industrial and commercial sources were the second largest contributors of GHG emissions with about 25 percent of total emissions. Domestic sources (e.g., home water heaters, furnaces, etc.) account for about 11 percent of the Bay Area's GHG emissions, followed by power plants at

seven percent. Oil refining currently accounts for approximately six percent of the total Bay Area GHG emissions (BAAQMD, 2008b).

Oakland Emissions

The City of Oakland, in partnership with ICLEI – Local Governments for Sustainability, has developed a GHG emissions inventory estimating citywide GHG emissions for the year 2005 at approximately three million metric tons of CO₂e (City of Oakland, 2009). This citywide GHG emissions inventory reflects all the energy used and waste produced within the Oakland city limits. When emissions from highway transportation are considered in this total, approximately 58 percent of Oakland’s annual GHG emissions are associated with the transportation sector. Natural gas consumption represents approximately 22 percent of Oakland’s GHG emissions, while electricity use and waste decomposition represent 16 percent and four percent of Oakland’s total GHG emissions, respectively. As shown in **Table 4.6-1**, Oakland emitted approximately three million metric tons of CO₂e in 2005 from all major sources, more than half of which were from transportation.

**TABLE 4.6-1
OAKLAND COMMUNITY-WIDE GHG EMISSIONS SUMMARY – 2005 (TONS/YEAR)**

GHG Emissions Source	Metric Tons of Carbon Dioxide Equivalent (CO₂e)	Percent of Total
Non-Highway Transportation	759,884	25%
Highway Transportation	1,006,911	33%
Commercial/Industrial Electricity	320,151	11%
Commercial/Industrial Natural Gas	288,514	10%
Residential Electricity	150,077	5%
Residential Natural Gas	350,162	12%
Landfilled Solid Waste	126,361	4%
Total	3,002,060	100%

SOURCE: City of Oakland, 2009.

Construction and Development Emissions

The construction and operation of developments, such as those facilitated by the Proposed Amendments, cause GHG emissions. Operational phase GHG emissions result from energy use associated with heating, lighting and powering buildings (typically through natural gas and electricity consumption in Oakland), pumping and processing water, as well as fuel used for transportation and decomposition of waste associated with building occupants.

New development can also create GHG emissions in its construction and demolition phases including the use of fuels in construction equipment, creation and decomposition of building materials, vegetation clearing, natural gas usage, electrical usage (since electricity generation by convention means is a major contributor of GHG emissions, discussed below), and transportation.

However, it is important to acknowledge that new development does not necessarily create entirely new GHG emissions, since most of the persons who will visit or occupy new development will come from other locations where they were already causing such GHG emissions. Further, as discussed above, it has not been demonstrated that new GHG emissions caused by a local development project can affect global climate change, or that a project's net increase in GHG emissions, if any, when coupled with other activities in the region, would be cumulatively considerable.

Potential Effects of Human Activity on Global Climate Change

Globally, climate change has the potential to impact numerous environmental resources through anticipated, though uncertain, impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming is taking place, including substantial loss of ice in the Arctic (International Panel on Climate Change [IPCC], 2000).

However, the understanding of GHG emissions, particulate matter, and aerosols on global climate trends remains uncertain. In addition to uncertainties about the extent to which human activity rather than solar or volcanic activity is responsible for increasing warming, there is also evidence that some human activity has cooling, rather than warming, effects, as discussed in detail in numerous publications by the IPCC, namely "Climate Change 2001, The Scientific Basis"(2001).³

Acknowledging uncertainties regarding the rate at which anthropogenic GHG emissions would continue to increase (based upon various factors under human control, such as future population growth and the locations of that growth; the amount, type, and locations of economic development; the amount, type, and locations of technological advancement; adoption of alternative energy sources; legislative and public initiatives to curb emissions; and public awareness and acceptance of methods for reducing emissions), and the impact of such emissions on climate change, the IPCC devised a set of six "emission scenarios" which utilize various assumptions about the rates of economic development, population growth, and technological advancement over the course of the next century (IPCC, 2000). These emission scenarios are paired with various climate sensitivity models to attempt to account for the range of uncertainties which affect climate change projections. The wide range of temperature, precipitation, and similar projections yielded by these scenarios and models reveal the magnitude of uncertainty presently limiting climate scientists' ability to project long-range climate change (as previously discussed).

The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects, according to the IPCC (IPCC, 2000):

- Snow cover is projected to contract, with permafrost areas sustaining thawing;

³ The IPCC was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme to assess scientific, technical and socio-economic information relevant for the understanding of climate change, its potential impacts and options for adaptation and mitigation.

- Sea ice is projected to shrink in both the Arctic and Antarctic;
- Hot extremes, heat waves, and heavy precipitation events are likely to increase in frequency;
- Future tropical cyclones (typhoons and hurricanes) will likely become more intense;
- Non-tropical storm tracks are projected to move poleward, with consequent changes in wind, precipitation, and temperature patterns. Increases in the amount of precipitation are very likely in high-latitudes, while decreases are likely in most subtropical regions; and
- Warming is expected to be greatest over land and at most high northern latitudes, and least over the Southern Ocean and parts of the North Atlantic Ocean.

Potential secondary effects from global warming include global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

Potential Effects of Climate Change on State of California

According to the CARB, some of the potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years.⁴ Several recent studies have attempted to explore the possible negative consequences that climate change, left unchecked, could have in California. These reports acknowledge that climate scientists' understanding of the complex global climate system, and the interplay of the various internal and external factors that affect climate change, remains too limited to yield scientifically valid conclusions on such a localized scale. Substantial work has been done at the international and national level to evaluate climatic impacts, but far less information is available on regional and local impacts. In addition, projecting regional impacts of climate change and variability relies on large-scale scenarios of changing climate parameters, using information that is typically at too general a scale to make accurate regional assessments.⁵

Below is a summary of some of the potential effects reported in an array of studies that could be experienced in California as a result of global warming and climate change:

- *Air Quality*. Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. For other pollutants, the effects of climate change and/or weather are less well studied, and even less well understood.⁶ If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could

⁴ California Air Resources Board (CARB), 2006c. *Public Workshop to Discuss Establishing the 1990 Emissions Level and the California 2020 Limit and Developing Regulations to Require Reporting of Greenhouse Gas Emissions*, Sacramento, CA. December 1, 2006.

⁵ Kiparsky, M. and P.H. Gleick, 2003. *Climate Change and California Water Resources: A Survey and Summary of the Literature*. Oakland, CA: Pacific Institute for Studies in Development. July, 2003.

⁶ US EPA, 2007, op. cit.

increase the number of heat-related deaths, illnesses, and asthma attacks throughout the State (California Climate Change Center [CCCC], 2006).

- Water Supply. Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. For example, models that predict drier conditions (i.e., parallel climate model [PCM]) suggest decreased reservoir inflows and storage and decreased river flows, relative to current conditions. By comparison, models that predict wetter conditions (i.e., HadCM2) project increased reservoir inflows and storage, and increased river flows (Brekke, et al., 2004).

A July 2006 technical report prepared by the California Department of Water Resources (DWR) addresses the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta. Although the report projects that “[c]limate change will likely have a significant effect on California’s future water resources . . . [and] future water demand,” it also reports that “much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain. This uncertainty serves to complicate the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood (DWR, 2006).” DWR adds that “[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future (DWR, 2006).” Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows (Kiparsky, 2003; DWR, 2005; Cayan et al., 2006). Water purveyors, such as the East Bay Municipal Utilities District (EBMUD), are required by state law to prepare Urban Water Management Plans (UWMPs) (discussed below, under Regulatory Context for Greenhouse Gas Emissions and Climate Change) that consider climatic variations and corresponding impacts on long-term water supplies (California Water Code, Section 10631[c]). DWR has published a 2005 SWP Delivery Reliability Report, which presents information from computer simulations of the SWP operations based on historical data over a 73-year period (1922–1994). The DWR notes that the results of those model studies “represent the best available assessment of the delivery capability of the SWP.” In addition, the DWR is continuing to update its studies and analysis of water supplies. EBMUD would incorporate this information from DWR in its update of its current UWMP 2005 (required every five years per the California Water Code), and information from the UWMP can be incorporated into Water Supply Assessments (WSAs) and Water Verifications prepared for certain development projects in accordance with California Water Code Section 10910, et seq. and California Government Code Section 66473.7, et seq. (See Section 4.14, *Utilities and Service Systems*, in this EIR for a discussion of the WSA.)

- Hydrology. As discussed above, climate change could potentially affect the following: the amount of snowfall, rainfall and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes—expansion of sea water as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could also jeopardize California’s water supply. In particular, saltwater intrusion would threaten the quality and reliability of the

state's major fresh water supply that is pumped from the southern portion of the Sacramento/San Joaquin River Delta. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

- ***Agriculture.*** California has a \$30 billion agricultural industry that produces half the country's fruits and vegetables. The CCCC notes that higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase, crop-yield could be threatened by a less reliable water supply, and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year that certain crops, such as wine grapes, bloom or ripen, and thus affect their quality (CCCC, 2006).
- ***Ecosystems and Wildlife.*** Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. In 2004, the Pew Center on Global Climate Change released a report examining the possible impacts of climate change on ecosystems and wildlife (Parmesan and Galbraith, 2004). The report outlines four major ways in which it is thought that climate change could affect plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes such as carbon cycling and storage.

4.6.2 Regulatory Context for GHG Emissions and Climate Change

Global climate change is addressed through the efforts of various federal, State, regional, and local government agencies as well as national and international scientific and governmental conventions and programs. These agencies work jointly, as well as individually, to understand and regulate the effects of greenhouse gas emissions and resulting climate change through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies, conventions and programs focused on global climate change are discussed below.

International and Federal

Kyoto Protocol. The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated five percent from 1990 levels during the first commitment period of 2008–2012. It should be noted that although the United States is a signatory to the Kyoto Protocol, Congress has not ratified the Protocol and the United States is not bound by the Protocol's commitments.

Copenhagen Summit. The 2009 United Nations Climate Change Conference, i.e., Copenhagen Summit, was held in Denmark in December 2009. The conference included the 15th Conference of the Parties (COP 15) to the United Nations Framework Convention on Climate Change and the 5th Meeting of the Parties (COP/MOP 5) to the Kyoto Protocol. A framework for climate change mitigation beyond 2012 was to be agreed there. The Copenhagen Accord was drafted by the US,

China, India, Brazil and South Africa on December 18, and judged a “meaningful agreement” by the United States government. It was “taken note of”, but not “adopted”, in a debate of all the participating countries the next day, and it was not passed unanimously. The document recognized that climate change is one of the greatest challenges of the present day and that actions should be taken to keep any temperature increases to below 2°C. The document is not legally binding and does not contain any legally binding commitments for reducing CO₂ emissions.

Climate Change Technology Program. The United States has opted for a voluntary and incentive-based approach toward emissions reductions in lieu of the Kyoto Protocol’s mandatory framework. The Climate Change Technology Program (CCTP) is a multi-agency research and development coordination effort (which is led by the Secretaries of Energy and Commerce) that is charged with carrying out the President’s National Climate Change Technology Initiative (CCTP, 2006).

U.S. Environmental Protection Agency (US EPA). To date, the USEPA has not regulated GHGs under the Clean Air Act (discussed above) based on its assertion in *Massachusetts et al. v. Environmental Protection Agency (EPA) et al.* (U.S. Supreme Court, 2007) that the “Clean Air Act does not authorize it to issue mandatory regulations to address global climate change and that it would be unwise to regulate GHG emissions because a causal link between GHGs and the increase in global surface air temperatures has not been unequivocally established.” However, in the same case, (*Massachusetts v. EPA*) the U.S. Supreme Court held that the USEPA can, and should, consider regulating motor-vehicle GHG emissions.

State of California

AB 1493 and Amended “Pavley” Regulations. On July 1, 2002, the California Assembly passed Bill 1493 (AB 1493) (signed into law on July 22, 2002), requiring the CARB to “adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.” The regulations were to be adopted by January 1, 2005, and apply to 2009 and later model-year vehicles. In September 2004, CARB responded by adopting “CO₂-equivalent fleet average emission” standards. The standards will be phased in from 2009 to 2016, reducing emissions by 22 percent in the “near term” (2009–2012) and 30 percent in the “mid term” (2013–2016), as compared to 2002 fleets.

Executive Order (E.O.) S-3-05. On June 1, 2005, Governor Arnold Schwarzenegger signed E.O. S-3-05, establishing statewide GHG emission reduction targets. This E.O. provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent below 1990 levels. The Secretary of the California EPA is charged with coordinating oversight of efforts to meet these targets and formed the Climate Action Team (CAT) to carry out the E.O. Several of the programs developed by the CAT to meet the emission targets are relevant to residential construction and are outlined in a March 2006 report (California EPA, 2006). These include prohibition of idling of certain classes of construction vehicles, provision of recycling facilities within residential buildings and communities, compliance with the CEC’s building and appliance energy efficiency standards,

compliance with California's Green Buildings and Solar initiatives, and implementation of water-saving technologies and features.

AB 32. On August 31, 2006, the California Assembly passed Bill 32 (AB 32) (signed into law on September 27, 2006), the California Global Warming Solutions Act of 2006. AB 32 commits California to reduce GHG emissions to 1990 levels by 2020 and establishes a multi-year regulatory process under the jurisdiction of the CARB to establish regulations to achieve these goals. The regulations shall require monitoring and annual reporting of GHG emissions from selected sectors or categories of emitters of GHGs. By January 1, 2008, CARB was required to adopt a statewide GHG emissions limit equivalent to the statewide GHG emissions levels in 1990, which must be achieved by 2020. By January 1, 2011, CARB is required to adopt rules and regulations, which shall become operative January 1, 2012, to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

On April 20, 2007, CARB published *Proposed Early Actions to Mitigate Climate Change in California* (California EPA, 2007). There are no early action measures specific to residential development included in the list of 36 measures identified for CARB to pursue during calendar years 2007, 2008, and 2009. Also, this publication indicated that the issue of GHG emissions in CEQA and General Plans was being deferred for later action, so the publication did not discuss any early action measures generally related to CEQA or to land use decisions. As noted in that report, "AB 32 requires that all GHG reduction measures adopted and implemented by the Air Resources Board be technologically feasible and cost effective (California EPA, 2007)." The law permits the use of market-based compliance mechanisms to achieve those reductions and also requires that GHG measures have neither negative impacts on conventional pollutant controls nor any disproportionate socioeconomic effects (among other criteria).

On December 11, 2008, CARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce CO₂e emissions by 174 million metric tons (MMT), or approximately 30 percent, from the state's projected 2020 emissions level of 596 MMT of CO₂e under a business-as-usual scenario. The Scoping Plan also breaks down the amount of GHG emissions reductions CARB recommends for each emissions sector of the state's GHG inventory. While CARB has identified a GHG reduction target of 15 percent for local governments themselves, it has not yet determined what amount of GHG emissions reductions it recommends from local government land use decisions. However, the Scoping Plan does state that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. CARB further acknowledges that decisions on how land is used will have large effects on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The measures approved by CARB will be developed over the next two years and be in place by 2012.

The Scoping Plan also includes recommended measures that were developed to reduce GHG emissions from key sources and activities while improving public health, promoting a cleaner environment, preserving our natural resources, and ensuring that the impacts of the reductions are equitable and do not disproportionately impact low-income and minority communities. These measures, shown below in **Table 4.6-2** by sector, also put the state on a path to meet the long-term 2050 goal of reducing California's GHG emissions to 80 percent below 1990 levels.

California Senate Bill 1368 (SB 1368). On August 31, 2006, the California Senate passed SB 1368 (signed into law on September 29, 2006), which required the Public Utilities Commission (PUC) to develop and adopt a "greenhouse gases emission performance standard" by February 1, 2007, for the private electric utilities under its regulation. The PUC adopted an interim standard on January 25, 2007, but formally requested a delay until September 30, 2007, for the local publicly-owned electric utilities under its regulation. These standards apply to all long-term financial commitments entered into by electric utilities. The CEC adopted a consistent standard in August, 2007. (Natural Resources Defense Council [NRDC], 2007)

California Senate Bill 97 (SB 97). Governor Schwarzenegger signed SB 97 (Chapter 185, Statutes 2007) into law on August 24, 2007. The legislation provides partial guidance on how greenhouse gases should be addressed in certain CEQA documents.

SB 97 required the Governor's Office of Planning and Research (OPR) to prepare CEQA Guidelines for the mitigation of GHG emissions, including, but not limited to, effects associated with transportation or energy consumption. The Resources Agency was required to certify and adopt the guidelines by January 1, 2010, and the relevant amendments became effective April, 2010, as discussed below. OPR and the Resources Agency are required to periodically review the guidelines to incorporate new information or criteria adopted by CARB facilitated by the Global Warming Solutions Act, scheduled for 2012.

In January 2009, OPR released preliminary proposed amendments to the CEQA Guidelines regarding GHG emissions. No significance threshold is included in the draft and the guidelines afford the customary deference provided to lead agencies in their analysis and methodologies. The introductory preface to the amendments recommends that CARB set state-wide thresholds of significance. OPR emphasized the necessity of having a consistent threshold available to analyze projects, and the analyses should be performed based on the best available information. Like the advisory, the proposed Guidelines section calls for quantification of GHG emissions. The proposed section states that the significance of GHG impacts should include consideration of the extent to which the project would result in the following: help or hinder compliance with AB 32 goals; increase energy use, especially energy use generated by fossil fuel combustion; improve energy efficiency; and result in emissions that would exceed any applicable significance threshold. In April 2009, OPR forwarded the draft revisions to the California Natural Resources Agency for review and proposed adoption. On July 3, 2009, the California Natural Resources Agency began the formal rulemaking process for adopting the CEQA Guidelines. The Secretary for Natural Resources adopted Amendments to the CEQA Guidelines addressing GHG emissions on December 30, 2009. The Amendments became effective on March 18, 2010, with a 120-day grace period.

**TABLE 4.6-2
LIST OF RECOMMENDED ACTIONS BY SECTOR**

Measure No.	Measure Description	GHG Reductions (Annual MMT CO₂e)
Transportation		
T-1	Pavley I and II – Light Duty Vehicle Greenhouse Gas Standards	31.7
T-2	Low Carbon Fuel Standard (Discrete Early Action)	15
T-3 ^a	Regional Transportation-Related Greenhouse Gas Targets	5
T-4	Vehicle Efficiency Measures	4.5
T-5	Ship Electrification at Ports (Discrete Early Action)	0.2
T-6	Goods Movement Efficiency Measures. <ul style="list-style-type: none"> • Ship Electrification at Ports • System-Wide Efficiency Improvements 	3.5
T-7	Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)	0.93
T-8	Medium- and Heavy-Duty Vehicle Hybridization	0.5
T-9	High Speed Rail	1
Electricity and Natural Gas		
E-1	Energy Efficiency (32,000 GWh of Reduced Demand) <ul style="list-style-type: none"> • Increased Utility Energy Efficiency Programs • More Stringent Building & Appliance Standards Additional Efficiency and Conservation Programs	15.2
E-2	Increase Combined Heat and Power Use by 30,000 GWh (Net reductions include avoided transmission line loss)	6.7
E-3	Renewables Portfolio Standard (33% by 2020)	21.3
E-4	Million Solar Roofs (including California Solar Initiative, New Solar Homes Partnership and solar programs of publicly owned utilities) <ul style="list-style-type: none"> • Target of 3000 MW Total Installation by 2020 	2.1
CR-1	Energy Efficiency (800 Million Therms Reduced Consumptions) <ul style="list-style-type: none"> • Utility Energy Efficiency Programs • Building and Appliance Standards • Additional Efficiency and Conservation Programs 	4.3
CR-2	Solar Water Heating (AB 1470 goal)	0.1
Green Buildings		
GB-1	Green Buildings	26
Water		
W-1	Water Use Efficiency	1.4†
W-2	Water Recycling	0.3†
W-3	Water System Energy Efficiency	2.0†
W-4	Reuse Urban Runoff	0.2†
W-5	Increase Renewable Energy Production	0.9†
W-6	Public Goods Charge (Water)	TBD†
Industry		
I-1	Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	TBD
I-2	Oil and Gas Extraction GHG Emission Reduction	0.2
I-3	GHG Leak Reduction from Oil and Gas Transmission	0.9
I-4	Refinery Flare Recovery Process Improvements	0.3
I-5	Removal of Methane Exemption from Existing Refinery Regulations	0.01

^a This is not the SB 375 regional target. CARB will establish regional targets for each MPO region following the input of the regional targets advisory committee and a consultation process with MPO's and other stakeholders per SB 375

† GHG emission reduction estimates are not included in calculating the total reductions needed to meet the 2020 target

The second part of SB 97 codifies safe harbor for highways and flood control projects. It provides that the failure of a CEQA document for a project funded by Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or the Disaster Preparedness and Flood Prevention Bond Act of 2006 to adequately analyze the effects of GHG emission otherwise required to be reduced pursuant to the regulations adopted under the Global Warming Solutions Act (which are not slated for adoption until January 1, 2012), does not create a cause of action for a violation of CEQA. This portion of SB 97 had a sunset date of January 1, 2010.

The bill does not address the obligation to analyze GHGs in projects not protected by the safe harbor provision. One possible interpretation is that there is no duty until the guidelines are adopted, because CEQA Guidelines Section 15007, Subdivision (b), provides that guideline amendments apply prospectively only.

California Senate Bill 375 (SB 375). Governor Schwarzenegger signed SB 375 into law in September 2008 (Chapter 728, Statutes of 2008). The legislation aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires metropolitan planning organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) that will prescribe land use allocation in the MPO's regional transportation plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects will not be eligible for funding programmed after January 1, 2012.

California Urban Water Management Act. The California Urban Water Management Planning Act requires various water purveyors throughout the State of California (such as EBMUD) to prepare UWMPs, which assess the purveyor's water supplies and demands over a 20-year horizon (California Water Code, Section 10631 *et seq.*). As required by that statute, UWMPs are updated by the purveyors every five years. As discussed above, this is relevant to global climate change which may affect future water supplies in California, as conditions may become drier or wetter, affecting reservoir inflows and storage and increased river flows.⁷

Bay Area Air Quality Management District (BAAQMD). BAAQMD is responsible for improving air quality within the San Francisco Bay Area Basin. BAAQMD adopted new thresholds of significance (BAAQMD Thresholds) on June 2, 2010, to assist lead agencies in determining when potential air quality impacts would be considered significant under CEQA. BAAQMD also released new CEQA Guidelines (CEQA Guidelines) in June 2010 which advise lead agencies on how to evaluate potential air quality impacts with the adopted new thresholds of significance. The analysis herein uses the thresholds from the BAAQMD Thresholds and the CEQA Guidelines to determine the development facilitated by the Proposed Amendments' significance with respect to GHG emissions.

⁷ Brekke, 2004, op. cit.

City of Oakland

City of Oakland General Plan

Oakland Energy and Climate Action Plan. An Oakland Energy and Climate Action Plan (ECAP) is being developed to identify, evaluate and recommend prioritized actions to reduce energy consumption and GHG emissions in Oakland. The ECAP will identify energy and climate goals, clarify policy direction, and identify priority actions for reducing energy use and GHG emissions. On July 7, 2009, the Oakland City Council directed staff to develop the draft Oakland ECAP using a GHG reduction target equivalent to 36 percent below 2005 GHG emissions by 2020 (City of Oakland, Resolution No. 82129 C.M.S., 2009). The City considered a draft ECAP for public review on March 1, 2011, and although the document is not yet adopted, it does not appear that development facilitated by the Proposed Amendments would conflict with policies and actions in the draft ECAP. Development facilitated by the Proposed Amendments does not conflict with the current City Sustainability Programs or General Plan policies regarding GHG reductions.

Land Use and Transportation Element (LUTE). The LUTE (which includes the Pedestrian Master Plan and Bicycle Master Plan) of the Oakland General Plan contains the following policies that address issues related to GHG emissions and climate change:

- *Policy T.2.1:* Transit-oriented development should be encouraged at existing or proposed transit nodes, defined by the convergence of two or more modes of public transit such as BART, bus, shuttle service, light rail or electric trolley, ferry, and inter-city or commuter rail.
- *Policy T.2.2:* Transit-oriented developments should be pedestrian-oriented, encourage night and day time use, provide the neighborhood with needed goods and services, contain a mix of land uses, and be designed to be compatible with the character of surrounding neighborhoods.
- *Policy T3.5:* The City should include bikeways and pedestrian ways in the planning of new, reconstructed, or realigned streets, wherever possible.
- *Policy T3.6:* The City should encourage and promote use of public transit in Oakland by expediting the movement of and access to transit vehicles on designated “transit streets” as shown on the Transportation Plan.
- *Policy T4.2:* Through cooperation with other agencies, the City should create incentives to encourage travelers to use alternative transportation options.
- *Policy N3.2:* In order to facilitate the construction of needed housing units, infill development that is consistent with the General Plan should take place throughout the City of Oakland.
- *Policy T4.5:* The City should prepare, adopt, and implement a Bicycle and Pedestrian Master Plan as a part of the Transportation Element of [the] General Plan.

Open Space, Conservation and Recreation Element (OSCAR). The OSCAR Element includes policies that address GHG reduction and global climate change. Listed below are the following types of OSCAR policies: policies that encourage the provision of open space, which increases vegetation area (trees, grass, landscaping, etc.) to effect cooler climate, reduce excessive solar gain, and absorb CO₂; policies that encourage stormwater management, which relates to the

maintenance of floodplains and infrastructure to accommodate potential increased storms and flooding; and policies that encourage energy efficiency and use of alternative energy sources, which directly address reducing GHG emissions.

- Policy OS-1.1: Conserve existing City and Regional Parks characterized by steep slopes, large groundwater recharge areas, native plant and animal communities, extreme fire hazards, or similar conditions.
- Policy OS-2.1: Manage Oakland's urban parks to protect and enhance their open space character while accommodating a wide range of outdoor recreational activities.
- Policy CO-5.3: Employ a broad range of strategies, compatible with the Alameda Countywide Clean Water Program.
- Policy CO-12.1: Promote land use patterns and densities which help improve regional air quality conditions by: (a) minimizing dependence on single passenger autos; (b) promoting projects which minimize quick auto starts and stops, such as live-work development, mixed use development, and office development with ground floor retail space; (c) separating land uses which are sensitive to pollution from the sources of air pollution; and (d) supporting telecommuting, flexible work hours, and behavioral changes which reduce the percentage of people in Oakland who must drive to work on a daily basis.
- Policy CO-12.3: Expand existing transportation systems management and transportation demand management strategies which reduce congestion, vehicle idling, and travel in single passenger autos.
- Policy CO-12.4: Require that development projects be designed in a manner which reduces potential adverse air quality impacts. This may include: (a) the use of vegetation and landscaping to absorb carbon monoxide and to buffer sensitive receptors; (b) the use of low-polluting energy sources and energy conservation measures; and (c) designs which encourage transit use and facilitate bicycle and pedestrian travel.
- Policy CO-12.5: Require new industry to use best available control technology to remove pollutants, including filtering, washing, or electrostatic treatment of emissions.
- Policy CO-13.2: Support public information campaigns, energy audits, the use of energy-saving appliances and vehicles, and other efforts which help Oakland residents, businesses, and City operations become more energy efficient.
- Policy CO-13.3: Encourage the use of energy-efficient construction and building materials. Encourage site plans for new development which maximize energy efficiency.
- Policy CO-13.4: Accommodate the development and use of alternative energy resources, including solar energy and technologies which convert waste or industrial byproducts to energy, provided that such activities are compatible with surrounding land uses and regional air and water quality requirements.

Historic Preservation Element (HPE). A key HPE policy relevant to climate change encourages the reuse of existing building (and building materials) resources, which could reduce landfill material (a source of methane, a GHG), avoid the incineration of materials (which produces CO₂ as a by-product), avoid the need to transport materials to disposal sites (which produces GHG

emissions), and eliminate the need for materials to be replaced by new product (which often requires the use of fossil fuels to obtain raw and manufacture new material) (USEPA 2006a).

Safety Element. Safety Element policies that address wildfire hazards related to climate change in that increased temperatures could increase fire risk in areas that become drier due to climate change (USEPA, 2010b). Also, wildfire results in the loss of vegetation; carbon is stored in vegetation, and when the vegetation burns, the carbon returns to the atmosphere (NASA, 2004). The occurrence of wildfire also emits particulate matters into the atmosphere. Safety Element policies also address storm-induced flooding hazards related to the potential to accommodate potential increase in storms and flooding as a result of climate change. Pertinent safety Element policies including the following:

- Policy FL-3: Prioritize the reduction of the wildfire hazard, with an emphasis on prevention.
- Policy FL-1: Enforce and update local ordinances and comply with regional orders that would reduce the risk of storm-induced flooding.
- Policy FL-2: Continue or strengthen city programs that seek to minimize the storm-induced flooding hazard.

Other City of Oakland Programs and Policies. The City of Oakland has supported and adopted a number of programs and policies designed to reduce GHG emissions and continue Oakland's progress toward becoming a model sustainable city. Other programs and policies of relevance to development that would be facilitated by the Proposed Amendments include:

- Sustainable Oakland Program. Oakland's sustainability efforts are coordinated through the Sustainable Oakland program, a product of the Oakland Sustainability Community Development Initiative (SDI) created in 1998 (Ordinance 74678 C.M.S.).
- Green Building. The City of Oakland has implemented Green Building principles in City buildings through the following programs: Civic Green Building Ordinance (Ordinance No. 12658 C.M.S., 2005), requiring, for certain large civic projects, techniques that minimize the environmental and health impacts of the built environment through energy, water and material efficiencies and improved indoor air quality, while also reducing the waste associated with construction, maintenance and remodeling over the life of the building; Green Building Guidelines (Resolution No. 79871, 2006) which provides guidelines to Alameda County residents and developers regarding construction and remodeling; and Green Building Education Incentives for private developers.
- Downtown Housing. The 10K Downtown Housing Initiative has a goal of attracting 10,000 new residents to downtown Oakland by encouraging the development of 6,000 market-rate housing units. This effort is consistent with Smart Growth principles.
- Waste Reduction and Recycling. The City of Oakland has implemented a residential recycling program increasing collection of yard trimmings and food waste. This program has increased total yard trimming collections by 46 percent compared to 2004, and recycling tonnage by 37 percent. The City also adopted Construction and Demolition Recycling, for which the City passed a resolution in July 2000 (Ordinance 12253. OMC Chapter 15.34), requiring certain nonresidential or apartment house projects to recycle 100 percent of all Asphalt & Concrete (A/C) materials and 65 percent of all other materials.

- *Polystyrene Foam Ban Ordinance*. In June 2006 the Oakland City Council passed the Green Food Service Ware Ordinance (Ordinance 14727, effective as of January 1, 2007), which prohibits the use of polystyrene foam disposable food service ware and requires, when cost neutral, the use of biodegradable or compostable disposable food service ware by food vendors and City facilities.
- *Zero Waste Resolution*. In March 2006 the Oakland City Council adopted a Zero Waste Goal by 2020 Resolution (Resolution 79774 C.M.S.), and commissioned the creation of a Zero Waste Strategic Plan to achieve the goal.
- *Stormwater Management*. On February 19, 2003, the Regional Water Quality Control Board, San Francisco Bay Region, issued a municipal stormwater permit under the National Pollutant Discharge Elimination System (NPDES) permit program to the Alameda Countywide Clean Water Program (ACCWP). The purpose of the permit is to reduce the discharge of pollutants in stormwater to the maximum extent practicable and to effectively prohibit non-stormwater discharges into municipal storm drain systems and watercourses. The City of Oakland, as a member of the ACCWP, is a co-permittee under the ACCWP's permit and is, therefore, subject to the permit requirements.
- *Provision C.3 of the NPDES permit* is the section of the permit containing stormwater pollution management requirements for new development and redevelopment projects. Among other things, Provision C.3 requires that certain new development and redevelopment projects incorporate post-construction stormwater pollution management measures, including stormwater treatment measures, stormwater site design measures, and source control measures, to reduce stormwater pollution after the construction of the project. These requirements are in addition to standard stormwater-related best management practices (BMPs) required during construction.
- *Community Gardens and Farmer's Markets*. Community Garden locations include Arroyo Viejo, Bella Vista, Bushrod, Golden Gate, Lakeside Horticultural Center, Marston Campbell, Temescal, and Verdese Carter. Weekly Farmer's Markets locations include the Jack London Square, Old Oakland, Grand Lake, Mandela, and Temescal districts. Both efforts promote and facilitate the principal of growing and purchasing locally, which effects reductions in truck and vehicle use and GHG emissions.

The City's SCAs relevant to reducing GHG emissions and climate change impacts due to the Redevelopment Plan Amendments are discussed within the context of the GHG Emissions Inventory in the impacts analysis below, Section 4.6.3.

4.6.3 Impacts and Mitigation Measures

Significance Thresholds for GHG and Climate Change

Development facilitated by the Proposed Amendments would have a significant impact on the environment if it would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, specifically:

*Plan-level Impacts (as applied to redevelopment plans)*⁸

- a) Produce total emissions of more than 1,100 metric tons of CO₂e annually **AND** more than 4.6 metric tons of CO₂e per service population annually⁹; or
2. Conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing GHG emissions.

Approach to CEQA Analysis of GHG Emissions and Climate Change Impacts in this EIR

This EIR does discuss, for consideration by decision makers, estimated GHG emissions from development that would occur pursuant to adoption of the Proposed Amendments. Because details of subsequent development projects are not known, project design features that would avoid or minimize those emissions are not estimated.

Quantitative and Qualitative Approach

This EIR uses both a quantitative and a qualitative approach. The quantitative approach is used to answer the first threshold: will development facilitated by the Proposed Amendments generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. The quantitative threshold discussed above is used to determine if this threshold is met.

The qualitative approach addresses the second threshold: will development facilitated by the Proposed Amendments conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Theoretically, if a project implements reduction strategies identified in AB 32, the Governor's E.O. S-3-05, or other strategies to help toward reducing GHGs to the level proposed by the Governor and targeted by the City of Oakland, it could reasonably follow that the project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Alternatively, a project could reduce a potential cumulative contribution to GHG emissions through energy efficiency features, density and locale (e.g., compact development near transit and activity nodes of work or shopping) and by contributing to available mitigation programs, such as reforestation, tree planting, or carbon trading.

However, the analysis in this EIR considers that, because the quantifiable thresholds established in the BAAQMD Guidelines were formulated based on AB 32 reduction strategies, a project

⁸ The BAAQMD CEQA Guidelines (June 2010) state that the plan-level service threshold of 6.6 metric tons of CO₂e per service population annually should only be applied to general plans. For other types of plans, such as redevelopment plans and specific Plans, the Guidelines state that the project-level service threshold of 4.6 metric tons of CO₂e of service population annually should be used.

⁹ The project's expected greenhouse gas emissions during construction should be annualized over a period of 40 years and added to the expected emissions during operation for comparison to the threshold. A 40-year period is used because 40 years is considered the average life expectancy of a building before it is remodeled with considerations for increased energy efficiency. The thresholds are based on the BAAQMD thresholds. The BAAQMD thresholds were originally developed for project operation impacts only. Therefore, combining both the construction emissions and operation emissions for comparison to the threshold represents a conservative analysis of potential greenhouse gas impacts.

cannot exceed the numeric threshold without also conflicting with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, if a project does not meet the threshold #1 (numeric) and therefore results in a significant cumulative impact because it would also result in a significant cumulative impact under the threshold #2 (plan, policy or regulation consistency), even though the project may incorporate measures and have features that would reduce its contribution to cumulative GHG emissions.

GHG emissions resulting from the Proposed Amendments were estimated using a combination of URBEMIS2007 model and the Bay Area Greenhouse Gas Model (BGM) of the BAAQMD. GHG emissions from motor vehicle sources were calculated using the URBEMIS2207 model in conjunction with the BGM greenhouse gas model. Vehicle trips assumed a BAAQMD-specific average vehicle trip distance of 12.7 miles which is embedded in URBEMIS2007. BGM makes adjustments for implementation of Pavley vehicle standards and Low Carbon Fuel Standards.

Development under the Proposed Amendment would generate GHG emissions from an increase in both stationary sources and mobile sources. Although specific characteristics of individual developments facilitated by the Proposed Amendments are not known for this program-level analysis in this EIR, area and indirect sources associated with development under the Proposed Amendments would primarily result from electrical usage, water and wastewater transport (the energy used to pump water and wastewater to and from a project site of development facilitated by the Proposed Amendments) and solid waste generation. GHG emissions from electrical usage are generated when energy consumed on the site is generated by fuel combustion. GHG emissions from water and wastewater transport are also indirect emissions resulting from the energy required to transport water from its source, and the energy required to treat wastewater and transport it to its treated discharge point. Solid waste emissions are generated when the increased waste generated by the project are taken to a landfill to decompose. GHG emissions from electrical usage, water and wastewater conveyance, and solid waste were estimated using the BGM GHG model.

Net Change in Emissions and Local/Global Context

The methodology applied here assumes that all emission sources associated with development facilitated by the Proposed Amendments would be new sources that would combine with existing conditions. For this assessment, it is not possible to predict whether emission sources associated with the Proposed Amendments would move from outside the air basin (and thus generate “new” emissions within the air basin), or whether they are sources that already exist and are merely relocated within the air basin. Because the effects of GHGs are global, if the project merely shifts the location of the GHG-emitting activities (locations of residences and businesses and where people drive), there would not be a net new increase of emissions. It also cannot be determined until buildout of the project whether occupants of the proposed developments would have shorter commute distances, require fewer vehicle trips, walk, bike, or use public transit more often, instead of driving, or use overall less energy by virtue of the development’s characteristics or proximity to workers’ housing. If these types of changes occur, overall vehicle miles traveled could be reduced and it could be argued that the Proposed Amendments would result in a potential net reduction in GHG emissions, locally and globally.

The GHG analysis presented herein takes into account growth and increased vehicle travel within the region context, which is the regional air basin and cumulative development, as described in Section 4.07.2, *Cumulative Context*, in the beginning of Chapter 4 in this Draft EIR. Therefore, there is no separate cumulative analysis section with regard to GHG emissions and consistency with related plans.

GHG Effects on Flooding and Sea-level Rise

Since the Project Area is located in an area that may be subject to coastal or other flooding resulting from climate change, (the nearest coastal shoreline is along the Oakland Estuary) the potential effects of climate change (e.g., effects of flooding on the Project Area due to sea level rise) on the Proposed Amendments are discussed in Section 4.8, *Hydrology and Water Quality*, of this EIR.

Impact GHG-1: Development facilitated by the Proposed Amendments would produce greenhouse gas emissions that exceed 1,100 metric tons of CO_{2e} per year, but that would not exceed 4.6 metric tons of CO_{2e} per service population annually. (Less than Significant)

Construction and operation of development facilitated by the Proposed Amendments would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during operation. Typically more than 80 percent of the total energy consumption takes place during the use of buildings and less than 20 percent are consumed during construction (United Nations Environmental Programme [UNEP], 2007). Overall, the following activities associated with development that would occur pursuant to the Proposed Amendments (as well as any similar land use development) could contribute to the generation of GHG emissions:

- *Motor Vehicle Use*. Transportation associated with development facilitated by the Proposed Amendments would result in GHG emissions from the combustion of fossil fuels in daily automobile and truck trips.
- *Gas, Electric and Water Use*. Natural gas use results in the emissions of two GHGs: methane (the major component of natural gas) and carbon dioxide from the combustion of natural gas. Methane is released prior to initiation of combustion of the natural gas (as before a flame on a stove is sparked), and from the small amount of methane that is uncombusted in a natural gas flame. Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. California's water conveyance system is energy intensive: Preliminary estimates indicate that total energy used to pump and treat this water exceeds 15,000 gigawatt hours (GWh) per year, or at least 6.5 percent of the total electricity used in the State per year (CEC, 2010).
- *Removal of Vegetation*. The net removal of vegetation for construction results in a loss of the carbon sequestration in plants. However, planting of additional vegetation would result in additional carbon sequestration and lower the carbon footprint of the project. (See City's Standard Conditions of Approval regarding *Landscape Requirements and Tree Replacement*, below.)
- *Construction Activities*. Construction equipment typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as carbon dioxide, methane and nitrous oxide. Furthermore, methane is emitted during the fueling of heavy equipment.

While development facilitated by the Proposed Amendments and all developments of similar land uses would generate GHG emissions from the activities described above, the City of Oakland's ongoing implementation of its Sustainability Community Development Initiative (which includes an array of programs and measures, discussed below, under *Regulatory Context for GHG Emissions and Climate Change*) will collectively reduce the levels of GHG emissions and contributions to global climate change attributable to activities throughout Oakland.

GHG Emission Inventory for Development Facilitated by the Proposed Amendments

Emissions included in the BAAQMD Guidelines, and therefore included in the adjusted GHG emissions inventory for the development facilitated by the Proposed Amendments, if applicable, are described below (and quantified in **Table 4.6-3**):

- *Area Source Emissions*. These are direct emissions from sources that include natural gas combustion for heating, cooking, fireplaces, or boilers, as well as emissions from landscape maintenance equipment.
- *Transportation Emissions*. These are direct emissions from mobile sources including automobiles, trucks, motorcycles, and buses.
- *Operational Electricity Consumption*. These are indirect emissions emitted off-site via non-renewable, non-nuclear electricity generators as a result of increased electrical demand.
- *Solid Waste Disposal Emissions*. These are indirect emissions associated with waste generation. A large percentage of Project waste would be diverted from landfills by waste reduction, recycling, and composting. Oakland currently diverts a large portion of its waste and has goals to even further reduce the amount of waste sent to a landfill. The remainder of the waste not diverted would be disposed of at a landfill. Landfills emit anthropogenic methane from the anaerobic breakdown of material.
- *Operational Fugitive (Direct) Emissions*. These direct emissions are most commonly associated with inadvertent emissions into the atmosphere due to leakage or inherent imperfections in a gas transport or collection system. Direct fugitive GHG emissions that may reasonably be expected to be generated by commercial buildings would consist of GHG refrigerants emitted from leaks or other imperfections in refrigeration or air cooling equipment.
- *Operational Water Emissions (embedded energy)*. These indirect emissions are associated with the electricity used to convey water, due to increased water demand from development facilitated by the Proposed Amendments.
- *Operational Wastewater (non-biogenic)*. These are indirect emissions from wastewater treatment associated with the electricity use in wastewater treatment (and not the biogenic CO₂ process emissions) (BAAQMD, 2010b).

Emission sources that are not included in the BAAQMD Guidelines or relevant to development facilitated by the Proposed Amendments are not included in the adjusted GHG emissions inventory. These sources include emissions generated from permitted stationary source equipment, vegetation sequestration change, fugitive refrigeration emissions, life cycle emissions, agricultural emissions; and off road equipment emissions.

**TABLE 4.6-3
GHG EMISSIONS INVENTORY FROM DEVELOPMENT FACILITATED BY THE PROPOSED
AMENDMENTS – “BUSINESS AS USUAL” AND ADJUSTED^a**

Emission Source	Total “Business as Usual” Annual CO₂e Emissions (metric tons per year)	Total Adjusted Annual CO₂e Emissions (metric tons per year)
Motor vehicle trips	11,880	10,774
Natural gas ^b	5,065	4,586
Grid Electricity ^b	11,890	10,028
Wastewater & Treatment & Conveyance	446	446
Solid Waste	8,640	8,640
Area Source (landscape maintenance)	14.1	14.1
Total Operational Project GHG Emissions without Construction Emissions	37,951	34,488
Construction Emissions per Year (annualized over 40 years)	1,085	1,085
Total Operational Project GHG Emissions with Construction Emissions	39,036	35,573
<i>Threshold of Significance</i>	<i>1,100</i>	<i>1,100</i>
<i>Exceeds Threshold?</i>	Yes	Yes
Total Project GHG Emissions by Service Population (including Construction Emissions)^c	5.02	4.58
<i>Threshold of Significance^d</i>	<i>4.6</i>	<i>4.6</i>
<i>Exceeds Threshold?</i>	Yes	No

- ^a “Business as Usual” emissions primarily represent emission levels without implementation of post-AB32 regulatory efforts to control GHGs, such as the Pavley fuel efficiency standards and the low carbon fuel standard. These vehicle emissions-related standards are reflected in the adjusted emissions, which also consider energy efficiency measures (affecting natural gas and electricity) from the AB 32 Scoping Plan, as specified in the BAAQMD Guidelines (June 2010, Table D-4). This analysis is conservative in that additional potential reductions from implementing applicable City SCAs, policies and local programs that may substantially reduce the adjusted emissions (e.g. GHG Reduction Plan, Transportation Demand Management Plan, Green Building compliance, etc) are not incorporated, as reductions would vary widely depending on the specific characteristics (which can not currently be known) of the developments facilitated by the Proposed Amendments.
- ^b Adjusted emissions reductions reflect AB 32 Scoping Plan Measures for energy efficiency that result in approximately 9.5 percent reduction in natural gas and approximately 15.7 percent reduction in electricity (June 2010, Table -4).
- ^c Total operational and construction GHG emissions, divided by estimated population of 7,770 (3,530 residents and 4,240 employees, per Table 4.10-11) associated with development facilitated by the Proposed Amendments.
- ^d Per BAAQMD Guidelines, which indicate that the project-level service threshold of 4.6 metric tons of CO₂e of service population annually should be used for redevelopment plans.

City Standard Conditions of Approval, Regulatory Requirements, General Plan Policies and Local Programs, and Design Features that Reduce GHG Emissions of Development facilitated by the Proposed Amendments

There are many ways for developments facilitated by the Proposed Amendments to reduce its GHG emissions through its design, construction and operations. Local conditions of approval, policies, programs and regulatory requirements that apply to a project also combine to reduce project GHG emissions. Each of these components would be considered part of the development facilitated by the Proposed Amendments and, as applicable, would be included in the estimate of the adjusted GHG emissions inventory for each development facilitated by the Proposed Amendments, as described below. However, as noted in Table 4.6-3, above, the adjusted

emissions estimated for the program-level analysis of the Proposed Amendments is conservative in that they do not incorporate potential reductions that may occur from implementing local conditions of approval, policies, programs and regulatory requirements (e.g., GHG Emissions Reduction Plan, Transportation Demand Management [TDM] Plan, Green Building Compliance, etc.) that would be considered at the project-level analysis based on specific project characteristics that cannot currently be known. The adjusted emissions do reflect regulatory efforts to control GHGs, such as the statewide Pavley fuel efficiency standard, the low carbon fuel standard, and energy efficiency measures for electricity and natural gas specified in the AB 32 Scoping Plan, as specified in the BAAQMD guidelines (June 2010, Table D-4). These reductions also support a conservative analysis since the AB 32 reductions are based on a benchmark year of 2020, and the analysis in this EIR has a benchmark year 2035 (and the horizon year for the Proposed Amendments is 2032), and further reductions would likely accrue in the additional 12 to 15 years beyond 2020. Each of the considerations factored in the emissions inventory in Table 4.6-3 is discussed below.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

The projects approved under the Proposed Amendments would have their own project-specific EIRs and environmental review. Those projects would also be required to incorporate the following SCAs as a condition of approval. Implementation of these SCAs through the approved projects would help reduce the GHG emissions of the development facilitated by the Proposed Amendments:

- **SCA B: GHG Reduction Plan**

SCA B applies to certain projects that produce total GHG emissions that exceed none or one of the BAAQMD CEQA Thresholds (1,100 metric tons of CO₂e annually or 4.6 metric tons of CO₂e per service population annually), and therefore do not result in a significant impact requiring mitigation. SCA B requires a project applicant to prepare a GHG Reduction Plan to increase energy efficiency and reduce GHG emissions to the greatest extent feasible below the BAAQMD CEQA Thresholds. The GHG Reduction Plan will include a comprehensive set of quantified GHG emissions reduction measures in addition to energy efficiencies included as part of the project (including the City's SCAs, proposed mitigation measures, project design features, and other City requirements). The complete text of SCA B is presented in the discussion of *Long-Term Operational Emissions*, below.

- **SCA 25: Parking and Transportation Demand Management**

SCA 25 requires a project applicant to submit for review and approval by the City of Oakland Planning and Zoning Division a Transportation Demand Management (TDM) Plan containing strategies to reduce on-site parking demand and single occupancy vehicle (SOV) travel. Generally the TDM Plan could reduce SOV trips for projects located near transit by about 10 to 20 percent, depending on the specific land use. Certain projects facilitated by the Proposed Amendments would be required to prepare a TDM Plan and incorporate the resulting reduced emissions (from reduced vehicle trips) into the project's GHG emissions calculations.

- **SCA 36: Waste Reduction and Recycling**

SCA 36 requires a project applicant to submit a Construction & Demolition Waste Reduction and Recycling Plan (WRRP) and an Operational Diversion Plan (ODP) for review and approval by the Oakland Public Works Agency. Chapter 15.34 of the Oakland Municipal Code outlines requirements for reducing waste and optimizing construction and demolition (C&D) recycling. Affected projects include all new construction and all demolition. This SCA essentially addresses reduction in construction-related emissions, which the City combines with a project's operational emissions to assess against the significance thresholds for operational emissions, even though construction emissions are not a component of BAAQMD's Guidelines. Therefore, this SCA will contribute to reducing total emissions of development facilitated by the Proposed Amendments.

- **Several SCAs Regarding Landscape Requirements and Tree Replacement**

Several SCAs address landscape requirements for frontages of commercial buildings and replacement of trees removed as part of a project. Projects are required to install one tree for every 25 feet of street frontage in cases where sidewalks have adequate width. Additionally SCAs generally require the replacement of native trees removed as part of a project. Together, these SCAs that maintain and increase landscaping and trees create a cooler climate, reduce excessive solar gain, and absorb CO₂e emissions for a contribution to emission reductions, but have no impact on the emissions inventory of development facilitated by the Proposed Amendments. SCA 12, SCA 13, SCA 15, SCA 17, and SCA 18 are initially presented in Section 4.1, *Aesthetics, Shadow and Wind*, of this Draft EIR; and SCA 46 is initially presented in Section 4.3, *Biological Resources*, in this Draft EIR.

- **Several SCAs Regarding Stormwater Management**

Consistent with regional stormwater management programs and requirements that projects much comply with, the City has several SCAs that aim to reduce post construction stormwater runoff that could affect the ability to accommodate potentially increased storms and flooding within existing floodplains and infrastructure systems. These SCAs are relevant as climate change can result in increased flooding due to warmer climate (e.g., earlier and greater melting of snowpack) and inadequate infrastructure. See SCA 55, SCA 75, and SCA 83, in Section 4.3, *Biological Resources*, in this Draft EIR.

General Plan Policies and City Programs

Each of the following policies and programs were previously discussed in general in *Regulatory Context for GHG Emissions and Climate Change*, in this Section.

- *Oakland General Plan LUTE*. The LUTE is aimed at promoting use of public transit, bicycles and pedestrian travel. Any reduction of transportation-related GHG emissions are captured in the trip reduction associated with the TDM Plan.
- *Oakland General Plan Open Space, Conservation and Recreation (OSCAR) Element*. The OSCAR contains policies that (a) encourage the provision of open space, which increases vegetation area (trees, grass, landscaping, etc.) to effect cooler climate, reduce excessive solar gain, and absorb CO₂; (b) encourage stormwater management, which relates to the maintenance of floodplains and infrastructure to accommodate potential increased storms and flooding; and (c) encourage energy efficiency and use of alternative energy sources. Policies that address vegetation area have no impact on the emissions inventory as vegetative sequestration is not a component of BAAQMD's Guidelines Other policies regarding energy efficiency encourage and support energy efficiency but are not

requirements under any implementation mechanism via the General Plan. They have resulted, however, in the implementation of the City of Oakland sustainability program discussed below.

- *City of Oakland Sustainability Programs.* The City has proactively adopted a number of sustainability programs in an effort to reduce the City's impact on climate change. Oakland's sustainability efforts are managed by the Oakland Sustainability Community Development Initiative and there are two main categories that relate to reducing GHG emissions from a development project: renewable energy and green building.

Renewable Energy. With regard to renewable energy, the City's Sustainability Program has set a priority of promoting renewable energy with a particular emphasis on solar generation. The Program's aggressive renewable energy goals include the following: 50 percent of city facilities entire electricity use from renewable sources by 2017; and 100 percent of the city's entire electricity use from renewable sources by 2030. The City has some control over renewable energy percentages for buildings it operates by contracting its energy needs directly with the local utility. However, private building operators generally receive a standard energy mix from PG&E, and would not be required to contract for a higher percentage of renewables under this program as it only targets City facilities. PG&E has requested a 33 percent renewable energy mix goal for 2020 from the CPUC (compared to a 12 percent mix in 2007).

Green Building. With regard to green building strategies, the City of Oakland has implemented green building principles in City buildings through the following programs: Civic Green Building Ordinance (Ordinance No. 12658 C.M.S., 2005), requiring, for certain large civic projects, techniques that minimize the environmental and health impacts of the built environment through energy, water and material efficiencies and improved indoor air quality, while also reducing the waste associated with construction, maintenance and remodeling over the life of the building; Green Building Guidelines (Resolution No. 79871, 2006) which provides guidelines to Alameda County residents and developers regarding construction and remodeling; and Green Building Education Incentives for private developers. Green building requirements for private developers are anticipated for adoption in the fall of 2010.

Regulatory Requirements

- *AB 1493 and Amended "Pavley" Regulations.* AB 1493 required the CARB to develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State. The CARB has adopted amendments to the Pavley regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments, approved by CARB on September 24, 2009, are part of California's commitment toward a nation-wide program to reduce new passenger vehicle GHGs from 2012 through 2016. The model used to estimate the development facilitated by the Proposed Amendments' GHG emissions for this analysis accounts for reductions of GHG resulting from implementation of Pavley standards.
- *Low Carbon Fuel Standards (LCFS).* On April 23, 2009 CARB approved the regulation to implement the LCFS. The LCFS will reduce GHG emissions from the transportation sector in California by about 16 MMT in 2020. The modeling used to estimate the development facilitated by the Proposed Amendments' GHG emissions for this analysis accounts for reductions of GHG resulting from implementation of LCFS.

Other Potential Design Features Relevant to Development Facilitated by the Proposed Amendments in the Central District Project Area

- City of Oakland. According the Pedestrian Master Plan, the City of Oakland has the highest walking rates for all cities in the nine-county San Francisco Bay Region. It is noted that these high pedestrian trips are likely because the neighborhoods are densely populated and well served by transit, including BART, AC Transit, Amtrak, and the Alameda Ferry. As such, development facilitated by the Proposed Amendments would reduce transportation-related GHG emissions compared to emissions from the same level of development elsewhere in the outer Bay Area.
- Transit-Oriented Development. Certain developments facilitated by the Proposed Amendments could be Transit Oriented Development, developing high-density housing in the central area of Oakland near transit stations, including BART stations, AC Transit centers, and other transportation nodes. In this zone, the Planning Code requires less parking than any other zone in the City thereby encouraging the use of transit and pedestrian activity. As such, these developments would reduce transportation-related GHG emissions compared to emissions from the same level of development elsewhere in the outer Bay Area. Because transit service is generally less available in most portions of the outlying areas than in the central area of Oakland, development in outlying areas would likely result in increased peak-hour vehicle trips of relatively long distances, and often in single-occupant vehicles, compared to development at the Project site.
- Urban Infill near Multiple Transit Modes. Certain developments facilitated by the Proposed Amendments could develop high-density housing within four blocks of at least two modes of transit (i.e., BART and AC Transit) within an area developed with pedestrian facilities. Therefore, these developments, as discussed for Transit Oriented Development, above, would facilitate walking and non-vehicular travel to a greater extent than would be the case for similar development in outlying areas of the region without extensive transit availability. In addition, the high-density development would include a greater number of potential residents that could potentially utilize or engage in alternative modes of travel than in a lower density development on the project site.
- Building Rehabilitation – Certain development facilitated by the Proposed Amendments could incorporate and support sustainable development goals including the renovation and reuse of the existing on-site building. As such, these developments would reduce transportation-related GHG emissions by avoiding the demolition and disposal of existing resources or energy to obtain and prepare raw resources for replacement structure.
- Projects with Development Agreements or Disposition and Development Agreements / Construction Operations and Building and Site Design. The project sponsor of development facilitated by the Proposed Amendments will work with the City to develop specific sustainable building and site design, construction, and operational methods and standards that could be incorporated with the Project. Sources include GreenPoint Rated (a program of Build It Green, sponsored by a number of Bay Area public agencies and jurisdictions); LEED (Leadership in Energy and Environmental Design) Green Building Rating System™ (the nationally accepted benchmark for the design, construction, and operation of high performance green buildings), and California Green Builder program. Examples of approaches that the Project would incorporate as feasible include use of the following:
 1. exceptionally durable and/or reused materials;
 2. materials that avoid toxic emissions;

3. equipment and fixtures that conserve energy;
4. maximizing efficient and natural lighting and ventilation; and
5. maximizing on-site landscaping.

Construction-generated GHG Emissions

The construction-generated GHG emissions of development facilitated by the Proposed Amendment were estimated based on potential land use development within the Project Area and default construction equipment and area estimates of the URBEMIS2007 model. Because the timing of each project is not known, as a conservative estimate all development was assumed to occur over a 10-year period beginning in 2012 (even though the Proposed Amendments will extend for 11 years). An estimated total of approximately **43,381 metric tons (MT) of CO₂e** would be emitted over the assumed construction period of 10 years through 2022.

Construction emissions are annualized because the proposed operational GHG emissions thresholds are analyzed in terms of metric tons “per year.” Assuming a 40-year development life of the Proposed Amendments until development is demolished or remodeled for energy efficiency (which is the common standard currently used in practice), total construction emissions represent approximately **1,085 MT CO₂e annually, over 40 years**.

As previously discussed, the BAAQMD Guidelines do not include a specific threshold or methodology for assessing construction-related GHG emissions for CEQA analysis. The City’s methodology adds the 40-year annualized construction-related GHG emissions to the project’s total operational-related emissions, to assess construction-related GHG emissions against the BAAQMD thresholds and the project’s ability to meet AB 32 GHG reduction goals, as discussed below.

The analysis of construction emissions only considers improvements in construction equipment exhaust emissions through manufacturer requirements and turnover. In addition to considering the CO₂e emission from construction activities, development that would be facilitated by the Proposed Amendments would incorporate dust control measures recommended by BAAQMD (SCA 26, *Dust Control*), which includes measures related to construction exhaust emissions). Further, the SCAs that apply to the development facilitated by the Proposed Amendments align with BAAQMD regulations that relate to portable equipment (e.g., concrete batch plants, and gasoline- or diesel-powered engines used for power generation, pumps, compressors, pile drivers, and cranes), architectural coatings, and paving materials. Equipment used during project construction would be subject to the requirements of BAAQMD Regulation 2 (Permits), Rule 1 (General Requirements) with respect to portable equipment unless exempt under Rule 2-1-105 (Exemption, Registered Statewide Portable Equipment); BAAQMD Regulation 8 (Organic Compounds), Rule 3 (Architectural Coatings); and BAAQMD Regulation 8 (Organic Compounds), Rule 15 (Emulsified and Liquid Asphalts).

In summary, the annualized GHG emissions from construction of the development facilitated by the Proposed Amendments would not conflict with the goals of AB 32.

Long-Term Operational GHG Emissions

As introduced above, long-term operational GHG emissions associated with development facilitated by the Proposed Amendments include indirect emissions from mobile sources (motor vehicle trips), emissions from natural gas combustion used in non-residential buildings, emissions from electricity use in non-residential buildings (grid electricity), emissions from water conveyance and waste water treatment and conveyance, and emissions from area sources. Emissions from each of these sources, in addition to the construction-related emissions discussed above, are reported in Table 4.6-3.

“Business as Usual” emissions shown in Table 4.6-3 do now consider any GHG reduction measures or compliance with local or statewide policies, plans and programs and regulations aimed at reducing GHG emissions. These “business as usual” emissions are provided to demonstrate how emissions from the development facilitated by the Proposed Amendments could be reduced even with the implementation of the most basic measures and adherence to regulatory requirements.

As previously discussed under *City Standard Conditions of Approval, Regulatory Requirements, General Plan Policies and Local Programs, and Design Features that Reduce GHG Emissions of Development facilitated by the Proposed Amendments*, the adjusted operational GHG emissions generated by development facilitated by the Proposed Amendments do not fully factor in project design features or applicable City SCAs (including implementation of a GHG Reduction Plan and TDM Plan), since design detail of such development within the Project Area and facilitated by the Proposed Amendments is not available for this program-level analysis, and the efficacy of GHG Emission Reduction measures and TDM programs is dependant on project types, land use specific travel demand and the availability of transit in a given area. The adjusted emissions do include regulatory requirements such as implementation of Pavley GHG standards and the LCFS for motor vehicles and other reduction measures from the AB 32 Scoping Plan.

As shown in Table 4.6-3, the total adjusted annual GHG emissions generated by development facilitated by the Proposed Amendments, including emissions from construction associated with that development, is approximately **35,573 MT CO₂e per year** (approximately nine percent less than “business as usual” emissions). Total emissions and service population (residents and employees) generated by development facilitated by the Proposed Amendments would result in approximately **4.58 MT CO₂e per service population annually** (approximately nine percent less than “business as usual” emissions).

Based on the project-level significance thresholds applicable to redevelopment plans, development facilitated by the Proposed Amendments would not have a significant impact because, although it would produce total emissions that exceed 1,100 MT of CO₂e annually, it would not exceed 4.6 MT of CO₂e per service population annually. A significant impact would occur with the “business as usual” emissions, which exceed both thresholds.

GHG Reduction Plan (SCA B)

As previously discussed under *City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval*, SCA B, *GHG Reduction Plan*, applies to certain projects and has the goal of increasing energy efficiency and reducing GHG emissions to the greatest extent feasible below **both** applicable numeric BAAQMD CEQA Thresholds (i.e., total emissions and per service population) to help achieve the City's goal of reducing GHG emissions. The GHG Reduction Plan shall be considered fully attained when project emissions are less than both applicable numeric BAAQMD CEQA Thresholds. The GHG emissions impact is the result of individual future developments facilitated by the Proposed Amendments that will be subject to SCA B, to the extent that a specific development project meets the applicability criteria discussed below. The GHG emissions reported in Table 4.6-3 will be reduced through project-by-project implementation of project-specific reduction measures.

- **SCA B: GHG Reduction Plan. SCA B applies to projects which:**
 - a) involve land use development (i.e., a project that does not require a permit from the BAAQMD to operate);
 - b) produce total GHG emissions of more than 1,100 metric tons of CO₂e annually **OR** more than 4.6 metric tons of CO₂e per service population annually (with "service population" defined as the total number of employees and residents of the project)¹⁰; and
 - c) is either a:
 - Residential development of more than 500 units;
 - Shopping center or business establishment employing more than 1,000 persons or containing more than 500,000 square feet of total floor area;
 - Commercial office building employing 1,000 persons or containing more than 250,000 square feet of total floor area;
 - Hotel or motel containing more than 500 rooms;
 - Industrial, manufacturing, or processing plant, or industrial park employing more than 1,000 persons, occupying more than 40 acres of land, or encompassing more than 650,000 square feet of total floor area; or
 - Any combination of smaller versions of the above that when combined result in equivalent annual CO₂e emissions as the above.

The project applicant/sponsor shall retain a qualified air quality consultant to develop a GHG Reduction Plan for City review and approval. The applicant/sponsor shall implement the approved GHG Reduction Plan.

The GHG Reduction Plan shall include, at a minimum, (a) a detailed GHG emissions inventory for the project under a "business-as-usual" scenario with no consideration of

¹⁰ Because SCA B applies to projects that exceed either numeric threshold, it therefore can apply to projects that do not have a significant CEQA impact for GHG emissions (i.e., produces emissions that exceed **BOTH** numeric thresholds) if that project also meets criteria "a" and "c".

project design features, or other energy efficiencies; (b) an “adjusted” baseline GHG emissions inventory for the project, taking into consideration energy efficiencies included as part of the project (including the City’s Standard Conditions of Approval, proposed mitigation measures, project design features, and other City requirements); (c) a comprehensive set of quantified additional GHG reduction measures available to further reduce GHG emissions beyond the adjusted GHG emissions; and (d) requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. If the project is to be constructed in phases, the GHG Reduction Plan shall provide GHG emission scenarios by phase.

Potential additional GHG reduction measures to be considered include, but are not be limited to, measures recommended in BAAQMD’s latest CEQA Air Quality Guidelines, the California Air Resources Board Scoping Plan (December 2008, as may be revised), the California Air Pollution Control Officers Association (CAPCOA) Quantifying Greenhouse Gas Mitigation Measures Document (August 2010), the California Attorney General’s website, and Reference Guides on Leadership in Energy and Environmental Design (LEED) published by the U.S. Green Building Council.

The proposed additional GHG reduction measures must be reviewed and approved by the City. The types of allowable GHG reduction measures include the following (listed in order of City preference): (1) physical design features; (2) operational features; and (3) the payment of fees to fund GHG-reducing programs (i.e., the purchase of “carbon credits”). For proposed reduction measures involving the purchase of carbon credits, the City will give preference to proposed payments to the City to offset the costs associated with implementation of GHG reduction strategies identified in the City’s Energy and Climate Action Plan (ECAP).

The allowable locations of the GHG reduction measures include the following (listed in order of City preference): (1) the project site; (2) off-site within the City of Oakland; (3) off-site within the San Francisco Bay Area Air Basin; and (3) off-site within the State of California.

For physical GHG reduction measures to be incorporated into the design of the project, the measures shall be included on the drawings submitted for construction-related permits. For operational GHG reduction measures to be incorporated into the project, the measures shall be implemented on an indefinite and ongoing basis beginning at the time of project completion (or at the completion of the project phase for phased projects).

For physical GHG reduction measures to be incorporated into off-site projects, the measures shall be included on drawings and submitted to the City for review and approval and then installed prior to completion of the subject project (or prior to completion of the project phase for phased projects). For operational GHG reduction measures to be incorporated into off-site projects, the measures shall be implemented on an indefinite and ongoing basis beginning at the time of completion of the subject project (or at the completion of the project phase for phased projects).

For GHG reduction measures involving the purchase of carbon credits (either to fund GHG-reducing activities identified in the ECAP or to fund non-ECAP GHG-reducing activities), evidence of the payment/purchase shall be submitted to the City for review and approval prior to completion of the subject project (or prior to completion of the project phase for phased projects).

The GHG Reduction Plan shall be considered fully attained when project emissions are less than both applicable numeric BAAQMD CEQA Thresholds, as confirmed by the City through an established monitoring program. Monitoring and reporting activities will continue at the City's discretion, as discussed below.

Compliance, Monitoring and Reporting. The GHG Reduction Plan requires regular periodic evaluation over the life of the Project (generally estimated to be at least 40 years) to determine how the Plan is achieving required GHG emissions reductions over time, as well as the efficacy of the specific additional GHG reduction measures identified in the Plan.

Implementation of the additional GHG reduction measures and related requirements shall be ensured through the project applicant/sponsor's compliance with a Mitigation Monitoring and Reporting Program, as will be implemented through Conditions of Approval adopted for the project.

Generally, starting two years after the City issues the first Certificate of Occupancy for the project, the project applicant/sponsor shall prepare each year of the useful life of the project an Annual GHG Emissions Reduction Report (Annual Report), subject to City review and approval. The Annual Report shall be submitted to an independent reviewer of the City's choosing, to be paid for by the project applicant/sponsor (see *Funding*, below), within two months of the anniversary of the Certificate of Occupancy.

The Annual Report shall summarize the project's implementation of GHG reduction measures over the preceding year, intended upcoming changes, compliance with the conditions of the Plan, and include a brief summary of the previous year's Annual Report results (starting the second year). The Annual Report shall include a comparison of annual project emissions to the actual adjusted emissions. "Actual Adjusted Emissions" shall be established 6 months after the first anniversary of the Certificate of Occupancy through preparation and approval of a baseline emissions inventory conducted at each anniversary of the Certificate of Occupancy.

If the City determines that the GHG Reduction Plan has been fully attained (i.e., project emissions are less than both applicable numeric BAAQMD CEQA Thresholds), it shall have the discretion to require Annual Reports be submitted at least every three years thereafter.

Funding. Within two months after the Certificate of Occupancy, the project applicant/sponsor shall fund an escrow-type account to be used exclusively for preparation of Annual Reports and review and evaluation by the City, or its selected peer reviewers. The escrow-type account shall be initially funded by the project applicant/sponsor in an amount determined by the City and shall be replenished by the project applicant/sponsor so that the amount does not fall below an amount determined by the City. The mechanism of this account shall be mutually agreed upon by the project applicant/sponsor and the City, including the ability of the City to access the funds if the project applicant/sponsor is not complying with the GHG Reduction Plan requirements, and/or to reimburse the City for its monitoring and enforcement costs.

Corrective Procedure. If the third Annual Report, or any report thereafter, indicates that, in spite of the implementation of the GHG Reduction Plan, the project is not achieving the GHG reduction goals, the project applicant/sponsor shall prepare a report for City review and approval, which proposes additional or revised GHG measures to achieve the GHG emissions reduction targets, including without limitation, a discussion on the feasibility and

effectiveness of the menu of other additional measures (Corrective GHG Action Plan). The project applicant/sponsor shall then implement the approved Corrective GHG Action Plan.

If, one year after the Corrective GHG Action Plan is implemented, the required GHG emissions reduction target is still not being achieved, or if the project applicant/owner fails to submit a report at the times described above, or if the reports do not meet City requirements outlined above, the City may, in addition to its other remedies, (a) assess the project applicant/sponsor a financial penalty based upon actual percentage reduction in GHG emissions as compared to the percent reduction in GHG emissions established in the GHG Reduction Plan; or (b) refer the matter to the City Planning Commission for scheduling of a compliance hearing to determine whether the project's approvals should be revoked, altered or additional conditions of approval imposed.

The penalty as described in (a) above shall be determined by the City and be commensurate with the percentage GHG emissions reduction not achieved (compared to the applicable numeric significance thresholds)

In determining whether a financial penalty or other remedy is appropriate, the City shall not impose a penalty if the project applicant/sponsor has made a good faith effort to comply with the GHG Reduction Plan and the City determines that the emissions reduction from the baseline emissions inventory conducted at each anniversary of the Certificate of Occupancy.

The City would only have the ability to impose a monetary penalty after a reasonable cure period and in accordance with the enforcement process outlined in Planning Code Chapter 17.152. If a financial penalty is imposed, such penalty sums shall be used by the City solely toward the implementation of the GHG Reduction Plan.

Timeline Discretion and Summary. The City shall have the discretion to modify the timing of reporting and all other requirements of this standard condition of approval as needed to adapt to a specific project or coincide with other related monitoring and reporting (e.g., for a TDM Plan) required for the project.

- *Fund Escrow-type Account for City Review:* Certificate of Occupancy plus 2 months
- *Submit Baseline Inventory of "Actual Adjusted Emissions":* Certificate of Occupancy plus 1 year
- *Submit Annual Report #1:* Certificate of Occupancy plus 2 years
- *Submit Corrective GHG Action Plan (if needed):* Certificate of Occupancy plus 4 years (based on findings of Annual Report #3)
- *Post Attainment Annual Reports:* Minimum every 3 years and at the City's discretion

Mitigation: None Required.

Impact GHG-2: Development facilitated by the Proposed Amendments would not conflict with an applicable plan, policy or regulation of an appropriate regulatory agency adopted for the purpose of reducing greenhouse gas emissions. (Less than Significant)

Development facilitated by the Proposed Amendments would not conflict with any applicable plan, policy or regulation adopted with the intent to reduce GHG emissions because it would not result in a significant impact based on numeric thresholds (see Impact GHG-1) and because future development will align with existing current plans, policies and regulations adopted to reduce GHG emissions. Specifically, development facilitated by the Proposed Amendments would not conflict with the current City Sustainability Programs or General Plan policies or regulations regarding GHG reductions and other local, regional and statewide plans, policies and regulations (previously discussed in Section 4.6.2, *Regulatory Context for GHG Emissions and Climate Change*) that are related to the reduction of GHG emissions and relevant to the Proposed Amendments and the Redevelopment Plan.

Further, development facilitated by the Proposed Amendments would be subject to all the regulatory requirements including the City's approach to reducing GHG emissions (and significant GHG emissions impacts, if applicable) by requiring the preparation and implementation of project-specific GHG Reduction Plans (SCA B, which would reduce GHG emissions of the development facilitated by the Proposed Amendments to the greatest extent feasible. SCAs also include conditions to address adherence to best management construction practices and equipment use (SCA 26, SCA 27 and SCA 41) and minimize post construction stormwater runoff that could affect the ability to accommodate potentially increased storms and flooding within existing floodplains and infrastructure systems (SCA 55, SCA 75, and SCA 83), to reduce demand for single occupancy vehicle travel (SCA 25), to increase landscaping to absorb CO₂e emissions (SCA 12, SCA 13, SCA 15, SCA 17, SCA 18, and SCA 46), and facilitate waste reduction and recycling (SCA 36).

Development facilitated by the Proposed Amendments would also entail implementing reduction strategies identified in AB 32, the Governor's E.O. S-3-05, and other strategies to help reduce GHGs to the level proposed by the Governor and targeted by the City of Oakland. An Oakland Energy and Climate Action Plan (ECAP) is being developed to identify, evaluate and recommend prioritized actions to reduce energy consumption and GHG emissions in Oakland. On July 7, 2009, the Oakland City Council directed staff to develop the draft Oakland ECAP using a GHG reduction target equivalent to 36 percent below 2005 GHG emissions by 2020 (City of Oakland, Resolution No. 82129 C.M.S., 2009). Consistent with that direction, the City Council considered a draft ECAP on March 1, 2011 that identifies energy and climate goals, clarifies policy direction, and identifies priority actions for reducing energy use and GHG emissions. Development facilitated by the Proposed Amendments would be required to comply with the application requirements of the ECAP, when it is adopted.

Overall, development facilitated by the Proposed Amendments would not conflict with any applicable plans, policies or regulations adopted with the intent to reduce GHG emissions. The GHG emissions from that development would exceed the annual 1,100 MT of CO₂e threshold, but would not result in a significant impact according to the numeric GHG threshold (Impact

GHG-1). SCA B would apply and be implemented with future development facilitated by the Proposed Amendments with the goal of reducing each project's GHG emissions to below both numeric thresholds (i.e., total emissions and per service population) to the greatest extent feasible, which directly supports local, regional and statewide GHG reduction goals.

Mitigation: None Required.

4.6.4 References

- Association of Environmental Professionals (AEP), *Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents*, 2007.
- Bay Area Air Quality Management District (BAAQMD), *BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plan*, December 1999.
- BAAQMD, *Bay Area 2005 Ozone Strategy: Volume I – Final Adopted*, January 4, 2006.
- BAAQMD, *Source Inventory of Bay Area Greenhouse Gas Emissions*. December, 2008b.
- BAAQMD, *California Environmental Quality Act Air Quality Guidelines*, June 2010b.
- BAAQMD, *Adopted Air Quality CEQA Thresholds of Significance*, June 2010c.
- BCDC, *See San Francisco Bay Conservation and Development Commission*.
- Brekke, L.D., *et al.*, "Climate Change Impacts Uncertainty for Water Resources in the San Joaquin River Basin, California." *Journal of the American Water Resources Association*. 40(2): 149–164. Malden, MA, Blackwell Synergy for AWWA, 2004.
- California Air Pollution Control Officers Association (CAPCOA), *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, 2008.
- California Air Resources Board (CARB), *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, October 2000.
- CARB, *Mandatory Reporting of Greenhouse Gas Emissions*, December 6, 2007.
- CARB, *Climate Change Draft Proposed Scoping Plan*, June 2008c.
- CARB, *Climate Change Proposed Scoping Plan*, October 2008d.
- CARB, *Preliminary Draft Staff Proposal on Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act*, October 2008e.
- California Climate Change Center (CCCC), *Our Changing Climate: Assessing the Risks to California*, CEC-500-2006-077, Sacramento, CA. July, 2006.

- California Department of Water Resources (DWR), *Progress on Incorporating Climate Change into Management of California Water Resources*, Sacramento, CA. July, 2006.
- California Energy Commission (CEC), 2004. *Water Energy Use in California* (online information sheet) Sacramento, CA, <http://www.energy.ca.gov/research/iaw/industry/water.html>, accessed August 19, 2010, page updated July 22, 2010.
- California Energy Commission (CEC), Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 - Final Staff Report, publication # CEC-600-2006-013-SF, Sacramento, CA, December 22, 2006; and January 23, 2007 update to that report.
- California Environmental Protection Agency (Cal EPA), Climate Action Team, *Executive Summary. Climate Action Team Report to Governor Schwarzenegger and the California Legislature*. Sacramento, CA, March 2006.
- Cayan, D., et al, Scenarios of Climate Change in California: An Overview (White Paper, CEC-500-2005-203-SF), Sacramento, CA. February, 2006.
- City of Oakland, *Open Space, Conservation and Recreation (OSCAR), An Element of the Oakland General Plan*, June 1996.
- City of Oakland. Resolution Approving Preliminary Planning Targets For Development of the Draft Oakland Energy And Climate Action Plan. June 23, 2009.
<http://clerkwebsvr1.oaklandnet.com/detailreport/matter.aspx?key=17204>.
- City of Oakland. *Draft Energy And Climate Action Plan*, March 1, 2011.
- City of Oakland. *2007-2014 Housing Element Draft EIR*, Section 3.5, Climate Change. August 2010.
- Climate Change Technology Program (CCTP), About the U.S. Climate Change Technology Program (web page), Washington, D.C., last updated April 2006,
<http://www.climatechange.gov/about/index.htm>, accessed July 24, 2007.
- DWR, See California Department of Water Resources.
- Governor's Office of Planning and Research (OPR), Technical Advisory, CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review, June 19, 2008.
- International Code Council (ICC), *Draft 2010 California Green Building Standards Code*,
<http://www.documents.dgs.ca.gov/bsc/documents/2010/Draft-2010-CALGreenCode.pdf>, accessed August 18, 2010.
- International Council for Local Environmental Initiatives (ICLEI), *City of Oakland Baseline Greenhouse Gas Emissions Inventory Report*, December 2006.
- International Panel on Climate Change (IPCC) *Special Report, Emissions Scenarios, Summary for Policymakers, 2000*, www.grida.no/climate/ipcc/emission/002.htm, accessed August 16, 2010 (IPCC 2000).
- National Aeronautics and Space Administration (NASA), *El Nino-Related Fires Increase Greenhouse Gas Emissions*, <http://www.nasa.gov/centers/goddard/news/topstory/2004/0102firenino.html>, accessed August 10, 2007, page dated January 5, 2004.

Natural Resources Defense Council, *Climate Facts, California Takes on Power Plant Emissions*, http://www.solutionsforglobalwarming.org/docs/SB1368_FS_FINAL.pdf, accessed August 17, 2010, document dated August 2007.

OPR, *See* Governor's Office of Planning and Research.

Parmesan, C. and H. Galbraith, *Observed Impacts of Global Climate Change in the U.S.*, Arlington, VA: Pew Center on Global Climate Change, November 2004.

San Francisco Bay Conservation and Development Commission (BCDC), Draft Staff Report, *Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline*, 2009 http://www.bcdc.ca.gov/proposed_bay_plan/bp_1-08_cc_draft.pdf.

Tholen, Greg, BAAQMD, Air Quality Planner, e-mail communication to Chris Sanchez of ESA May 14, 2010.

United Nations Environment Programme (UNEP), *Buildings and Climate Change: Current Status, Challenges and Opportunities*, Paris, France, June 28, 2007.

United Nations Framework Convention on Climate Change (UNFCCC), Sum of Annex I and Non-Annex I Countries Without Counting Land-Use, Land-Use Change and Forestry (LULUCF). Predefined Queries: GHG total without LULUCF (Annex I Parties). Bonn, Germany, http://unfccc.int/ghg_emissions_data/predefined_queries/items/3814.php, accessed May 2, 2007.

U.S. Environmental Protection Agency (US EPA), "Global Warming – Climate: Uncertainties," <http://yosemite.epa.gov/oar/globalwarming.nsf/content/Climate.html?>, <http://yosemite.epa.gov/oar/globalwarming.nsf/content/ClimateUncertainties.html#likely>, accessed July 24, 2007, page updated January 2000.

US EPA, General Information on the Link Between Solid Waste and Greenhouse Gas Emissions (web page), <http://www.epa.gov/climatechange/wycd/waste/generalinfo.html>, accessed August 17, 2010, page updated March 10, 2010 (2010a).

US EPA, Climate Change – Health and Environmental Effects: Health (web page), www.epa.gov/climatechange/effects/health.html, accessed August 17, 2010, page updated April 27, 2010 (2010b).

4.7 Hazardous Materials

This section discusses the hazardous materials issues related to the existence of hazardous materials associated with Project Area and provides an overview of the regulatory setting that is applicable to health and safety regarding hazardous materials in the Project Area.

Materials and waste may be considered hazardous if they are poisonous (toxicity), can be ignited by open flame (ignitability), corrode other materials (corrosivity), or react violently, explode or generate vapors when mixed with water (reactivity). The term “hazardous material” is defined in the State Health and Safety Code (Chapter 6.95, Section 25501[o]) as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

A hazardous waste, for the purpose of this EIR, is any hazardous material that is abandoned, discarded, or recycled, as defined in the State Health and Safety Code (Chapter 6.95, Section 25125). The transportation, use, and disposal of hazardous materials, as well as the potential releases of hazardous materials to the environment, are closely regulated through many state and federal laws.

This section identifies any potentially significant hazards or hazardous materials impacts and, if necessary, appropriate mitigation measures or standard conditions of approval. Pursuant to the City’s amendment to the Oakland General Plan (City of Oakland, 2004), as well as Section 15358(b) of the CEQA Guidelines, mitigation measures are proposed only to address physical impacts that may result from development facilitated by the Proposed Amendments.

4.7.1 Environmental Setting

Soil and Groundwater Contamination

Regulatory databases, provided by numerous federal, state, and local agencies, including the State Water Resources Control Board Geotracker database for leaking underground fuel tanks (LUFTs) and underground storage tanks (USTs), the San Francisco Bay RWQCB Spills, Leaks, Investigations, and Cleanup Database (SLIC), and the California Department of Toxic Substances Control (DTSC) database (Envirostor) include relatively current information showing where past hazardous materials releases have been identified within the Project Area. These databases list sites with suspected and confirmed releases of hazardous materials to the subsurface soil and/or groundwater. The reporting and statuses of these sites change frequently as identification, monitoring and clean-up of hazardous sites occur. Typically, sites are closed once it has been demonstrated that existing site uses combined with the levels of identified contamination present no significant risk to human health or the environment. These databases are updated frequently and would need to be revisited prior to construction for development facilitated by the Proposed Amendments. The databases would likely be revisited as part of subsequent environmental review required by CEQA, as needed and appropriate.

There are approximately 100 LUFT and 30 SLIC sites currently identified within the Project Area (SWRCB, 2010). The LUFT sites in the Project Area are discussed below. Additionally, seven listed sites with other classifications are shown in **Table 4.7-1** below.

**TABLE 4.7-1
NON LUFT/SLIC REGULATORY SITES LISTED WITHIN THE PROJECT AREA**

Site Name/ Address	Regulatory List	Site Summary
Oakland Dock and Warehouse Exact Address Unknown – Intersection of 19th Street and Broadway Avenue	FUDS; DTSC Cleanup	Needs evaluation by DTSC.
Oakland Area Hospital Exact Address Unknown – Intersection of 14th Street and Jackson Street	FUDS; DTSC Cleanup	Needs Evaluation by DTSC. Potential contaminants of concern include diesel, gas, and motor oil.
A. Berkovich 127 2nd Street	DTSC Cleanup	Prior land use was a junk yard. Potential contaminants of concern include metals, petroleum, and polychlorinated biphenyls. There are land use restrictions at the site.
Lakeside Non-ferrous Metals Corporation 412 Madison Street	CERC-NFRAP	No further action is required under CERCLA. However, elevated levels of metals are present. Further action required by the State.
Port of Oakland/Cinema Project Oakland Area Hospital Exact Address Unknown – Intersection of Clay and Embarcadero	Voluntary Cleanup	Potential contaminants of concern include polynuclear aromatic hydrocarbons. Site has been certified and there are land use restrictions imposed.
PG&E 101 Jefferson Street	Voluntary Cleanup	Active cleanup status since 1996. Contaminates of concern include benzene, polynuclear aromatic hydrocarbons (PAHS), diesel and gas.
Oakland Power Plant 50 Martin Luther King Jr. Way	Voluntary Cleanup	Active cleanup status since 2003. Contaminates of concern include lead, polynuclear aromatic hydrocarbons, diesel, motor oil and cyanide.

FUDS: Formerly Used Defense Sites

NPL: National Priority List

CERC-NFRAP: Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) and No. Further Remedial Action Planned Report

DTSC Cleanup: California Department of Toxic Substances Cleanup

SOURCES: SWRCB 2010; DTSC 2010.

Fuel Contamination from Leaking Underground and Aboveground Storage Tanks

An underground storage tank system is a tank and any underground piping connected to the tank that has at least 10 percent of its combined volume underground. Until the mid-1980s, most USTs were made of single-walled bare steel which were found to corrode over time resulting in leakage. Faulty installation or maintenance procedures also lead to UST leakage, in addition to potential releases associated with spills. Recently revised UST regulations have significantly reduced the incidents of UST leakage from new UST systems and the consequential soil and groundwater contamination. However, there are some older UST systems that remain in service

and many sites contaminated by leaking USTs that are still under investigation and clean-up. USTs installed prior to the mid-1980's that have leaked as well as improperly installed USTs have resulted in fuel spills can present contamination issues in the Project Area. In addition, it is not uncommon for older USTs to have been abandoned in place with no documentation of location or abandonment technique. There are approximately 100 Leaking underground storage tanks located within the Project Area. Approximately two-thirds of these sites have been removed and the environmental cases are closed (SWRCB, 2010).

Contamination from Spills and Leaks

Spills and leaks of chemicals can contaminate soil and groundwater when proper precautions are not in place. Various businesses and industries transport, use, and dispose of chemicals improperly or accidentally release them into the environment. Chemicals can include but are not limited to heavy metals, solvents and flammable materials. Non-permitted discharges of these chemicals are documented by the San Francisco Bay RWQCB in the Spills SLIC. Within the Project Area, there are approximately 30 SLIC sites identified. These sites would be cleaned up and monitored with the oversight of the DTSC.

Other Classifications for Contaminated Sites

Other sites with contaminated soil and/or groundwater within the Project Area include those included in the Formerly Used Defense Sites (FUDS) database; Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) database; sites under DTSC oversight; as well as sites listed for voluntary cleanup. Sites in the FUDS database include formerly used defense sites where the U.S. Army Corps of Engineers is actively working or will take necessary cleanup actions. There are two such sites within the Project Area, (one in the vicinity of 19th Street and Broadway, and the other in the vicinity of 14th Street and Jackson Street) which need further evaluation by DTSC to determine the contaminants of concern, necessary cleanup and monitoring. There is one DTSC Cleanup site at 127 2nd Street with potential contaminants of concern that includes metals, petroleum, and polychlorinated biphenyls (PCBs). There are land use restrictions at this site which prevents it from being used as a school or hospital as well as limits on the amount of subsurface activity that can occur at the site. A CERC-NFRAP (No Further Remedial Action Planned) site at 412 Madison Street has been determined not to be an eligible Superfund (National Priorities List) site and is now under the oversight of Alameda County for proper containment of heavy metal contamination. The DTSC's Voluntary Cleanup Program allows site owners and operators to investigate and remediate sites at their own pace and under DTSC oversight. There are three such sites within the Project Area: one is located at 101 Jefferson Street, the second at 50 Martin Luther King Jr. Way, and the third in the vicinity of Clay and Embarcadero (DTSC, 2010).

Hazardous Building Materials Associated with Demolition

Implementation of development facilitated by the Proposed Amendments could include demolition of some portions of the existing structures in the Project Area. The Project Area is currently highly developed consisting of many older buildings which may have been constructed

with hazardous building materials. These materials include lead-based paint, asbestos, and polychlorinated biphenyls (PCBs) and if disturbed could present a potential hazard to workers or the public.

Prior to the U.S. Environmental Protection Agency (USEPA) ban in 1978, lead-based paint was commonly used on interior and exterior surfaces of buildings. Through such disturbances as sanding and scraping activities, or renovation work, or gradual wear and tear, old peeling paint, or paint dust particulates have been found to contaminate surface soils or cause lead dust to migrate and affect indoor air quality. Exposure to residual lead can cause severe adverse health effects especially in children.

Asbestos is a naturally occurring fibrous material that was extensively used as a fireproofing and insulating agent in building construction materials before such uses were banned by the USEPA in the 1970s. Asbestos was commonly used for insulation of heating ducts as well as ceiling and floor tiles to name a few typical types of materials. Similar to lead-based paint, contained within the building materials asbestos fibers present no significant health risk, but once these tiny fibers are disturbed they become airborne and create potential exposure pathways. The fibers are very small and cannot be seen with the naked eye. Once they are inhaled they can become lodged into the lung potentially causing lung disease or other pulmonary complications.

PCBs are organic oils that were formerly used primarily as insulators in many types of electrical equipment including transformers and capacitors. After PCBs were determined to be a carcinogen in the mid to late 1970s, the USEPA banned PCB use in most new equipment and began a program to phase out certain existing PCB-containing equipment. Fluorescent lighting ballasts manufactured after January 1, 1978, do not contain PCBs and are required to have a label clearly stating that PCBs are not present in the unit. Additional information about these materials is provided in the Regulatory Setting Section below.

4.7.2 Regulatory Setting

Development facilitated by the Proposed Amendments is subject to government health and safety regulations applicable to the transportation, use, and disposal of hazardous materials. This section provides an overview of the regulatory setting that is applicable to the health and safety in the Project Area.

Federal

Hazardous Materials Management

The primary federal agencies with responsibility for hazardous materials management include the USEPA, U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (DOT). Federal laws, regulations, and responsible agencies are summarized in **Table 4.7-2** and are discussed in detail in this section.

**TABLE 4.7-2
FEDERAL LAWS AND REGULATIONS RELATED TO
HAZARDOUS MATERIALS MANAGEMENT**

Classification	Law or Responsible Federal Agency	Description
Hazardous Materials Incidents	National Priorities List (NPL)	Compilation of over 1,200 sites for priority cleanup under the Federal Superfund Program.
	Proposed National Priorities List (PNPL)	Sites considered for NPL listing.
	Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)	Contains data on potentially hazardous waste sites that have been reported to the USEPA by California. CERCLIS contains sites which are either proposed to or on the NPL and sites which are in the screening and assessment phase for possible inclusion on the NPL.
	CERCLIS No Further Remedial Action Planned (CERC-NFRAP)	CERC-NFRAP are archived sites which indicate an assessment of the site has been completed and that the EPA has determined no further steps will be taken to list the site on NPL.
	California Hazardous Materials Incident Report System (CHMIRS)	Spills and other incidents gathered from the California Office of Emergency Services.
	Formerly Used Defense Sites Properties (FUDS)	Includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.
	Proposition 65 Records (Notify 65)	This database, maintained by the State Water Resources Control Board (SWRCB), contains facility notifications about any release that could impact drinking water and thereby expose the public to a potential health risk.
Hazardous Materials Management	Community Right-to-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA))	Imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment in the event that such materials are accidentally released.
Hazardous Waste Handling	Resource Conservation and Recovery Act of 1976 (RCRA)	Under RCRA, the EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste from "cradle to grave."
	Hazardous and Solid Waste Act	Amended RCRA in 1984, affirming and extending the "cradle to grave" system of regulating hazardous wastes. The amendments specifically prohibit the use of certain techniques for the disposal of some hazardous wastes.
	Hazardous Wastes & Substances Sites List (Cortese)	Historical compilation of sites listed in the LUST, SWF/LF and Cal SITES databases. No longer maintained as an active database.
Hazardous Materials Transportation	U.S. Department of Transportation (DOT)	Has the regulatory responsibility for the safe transportation of hazardous materials. The DOT regulations govern all means of transportation except packages shipped by mail (49 CRF).
	U.S. Postal Service (USPS)	USPS regulations govern the transportation of hazardous materials shipped by mail.
Occupational Safety	Occupational Safety and Health Act of 1970	Fed/OSHA sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries (29 CFR).
Structural and Building Components (Lead-based paint, PCBs, and asbestos)	Toxic Substances Control Act (TSCA)	Regulates the use and management of PCBs in electrical equipment, and sets forth detailed safeguards to be followed during the disposal of such items.
	U.S. EPA	The EPA monitors and regulates hazardous materials used structural and building components and affects on human health.

State and local agencies often have either parallel or more stringent regulations than federal agencies. In most cases, state law mirrors or overlaps federal law and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For these reasons, the requirements of the law and its enforcement are discussed under either the state or local agency section.

State

In January 1996, the California Environmental Protection Agency (Cal EPA) adopted regulations implementing a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The program has six elements: hazardous waste generators and hazardous waste on-site treatment; underground storage tanks; aboveground storage tanks; hazardous materials release response plans and inventories; risk management and prevention programs; and Unified Fire Code hazardous materials management plans and inventories. The plan is implemented at the local level. The Certified Unified Program Agency (CUPA) is the local agency that is responsible for the implementation of the Unified Program. In Oakland, the Alameda County Department of Environmental Health (ACDEH) and the Oakland Fire Department are the designated CUPA for all businesses.

Hazardous Materials Management

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires that any business that handles hazardous materials prepare a business plan, which must include the following:

- Details, including floor plans, of the facility and business conducted at the site;
- An inventory of hazardous materials that are handled or stored on site;
- An emergency response plan; and
- A safety and emergency response training program for new employees with annual refresher courses

Hazardous Waste Handling

The Cal EPA DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. Laws and regulations require hazardous materials users to store these materials appropriately and to train employees to manage them safely.

Under the federal Resource Conservation and Recovery Act of 1976 (RCRA) described in Table 4.7-1, above, individual states may implement their own hazardous waste programs in lieu of RCRA, as long as the state program is at least as stringent as federal RCRA requirements. In California, the DTSC regulates the generation, transportation, treatment, storage, and disposal of

hazardous waste. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; prescribe management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

Hazardous Materials Transportation

The State of California has adopted DOT regulations for the intrastate movement of hazardous materials. State regulations are contained in Title 26 of the CCR. In addition, the State of California regulates the transportation of hazardous waste originating in the state and passing through the state (26 CCR). Both regulatory programs apply in California. The two state agencies that have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans).

Occupational Safety

The California Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in Title 29 of the CFR. Cal/OSHA standards are generally more stringent than federal regulations.

Cal/OSHA regulations (8 CCR) concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations, which contain training and information requirements, including procedures for identifying and labeling hazardous substances, and communicating hazard information relating to hazardous substances and their handling. The hazard communication program also requires that Materials Safety Data Sheets (MSDS) be available to employees, and that employee information and training programs be documented. These regulations also require preparation of emergency action plans (escape and evacuation procedures, rescue and medical duties, alarm systems, and training in emergency evacuation).

State laws, like federal laws, include special provisions for hazard communication to employees in research laboratories, including training in chemical work practices. Specific, more detailed training and monitoring is required for the use of carcinogens, ethylene oxide, lead, asbestos, and certain other chemicals listed in 29 CFR. Emergency equipment and supplies, such as fire extinguishers, safety showers, and eye washes, must also be provided and maintained in accessible places.

Cal/OSHA (8 CCR), like Fed/OSHA (29 CFR) includes extensive, detailed requirements for worker protection applicable to any activity that could disturb asbestos-containing materials, including maintenance, renovation, and demolition. These regulations are also designed to ensure that persons working near the maintenance, renovation, or demolition activity are not exposed to asbestos.

Emergency Response

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local government and private agencies. Responding to hazardous materials incidents is one part of this plan. The plan is administered by the State Office of Emergency Services (OES), which coordinates the responses of other agencies, including Cal EPA, CHP, CDFG, the San Francisco Bay RWQCB, and the Oakland Fire Department (OFD). The OFD provides first response capabilities, if needed, for hazardous materials emergencies within the Project Area.

Structural and Building Components

Implementation of development facilitated by the Proposed Amendments could include demolition of structures which, due to their age, may contain asbestos, PCBs, or lead and lead-based paint. In addition, removal of existing aboveground tanks or USTs may be required.

Asbestos

State laws and regulations prohibit emissions of asbestos from asbestos-related manufacturing, demolition, or construction activities; require medical examinations and monitoring of employees engaged in activities that could disturb asbestos; specify precautions and safe work practices that must be followed to minimize the potential for release of asbestos fibers; and require notice to federal and local governmental agencies prior to beginning renovation or demolition that could disturb asbestos. Asbestos represents a human health risk when asbestos fibers become airborne (friable) and are inhaled into the lungs.

The BAAQMD is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and is to be notified ten days in advance of any proposed demolition or abatement work. Cal/OSHA regulates asbestos removal to ensure the health and safety of workers removing asbestos containing materials and also must be notified of asbestos abatement activities.

Polychlorinated Biphenyls (PCBs)

As previously discussed, PCBs are organic oils that were formerly placed in many types of electrical equipment and in fluorescent lighting ballasts. PCBs are highly persistent in the environment and are toxic. In 1979, the USEPA banned the use of PCBs in most new electrical equipment and began a program to phase out certain existing PCB-containing equipment. The use and management of PCBs in electrical equipment is regulated pursuant to the Toxic Substances Control Act (40 CFR). Fluorescent lighting ballasts that contain PCBs, regardless of size and quantity, are regulated as hazardous waste and must be transported and disposed of as hazardous waste.

Lead and Lead-Based Paint

The California Code of Regulations, Title 22, considers waste soil with concentrations of lead to be hazardous if it exceeds a total concentration of 1,000 ppm and a soluble¹ concentration of 5 ppm. Both the federal and California OSHAs regulate all worker exposure during construction

¹ Capable of being dissolved, especially in water.

activities that involve lead-based paint. The Interim Final Rule found in 29 CFR Part 1926.62 covers construction work where employees may be exposed to lead during such activities as demolition, removal, surface preparation for re-painting, renovation, clean up and routine maintenance. The OSHA-specified method of compliance includes respiratory protection, protective clothing, housekeeping, hygiene facilities, medical surveillance, training, etc.

Hazardous Materials and Redevelopment

Polanco Redevelopment Act

In a redevelopment area, the Polanco Redevelopment Act authorizes an agency undertaking redevelopment activities to require the current site owner or operator to investigate and clean up an identified release of hazardous materials in accordance with applicable state and federal laws. The redeveloping agency may also perform the cleanup itself with the oversight of the DTSC, the San Francisco Bay Regional Water Quality Control Board (RWQCB) or local agency if the site owner or operator refuses to do so. If the clean up is completed in accordance with an approved clean up plan and is performed to the satisfaction of the responsible agency, redevelopment agencies, developers, subsequent land owners, and lenders receive immunity from liability for the contamination under this legislation. The Polanco Act can expedite the cleanup process and provide the redeveloping entity immunity from liability for pre-existing hazardous material contamination.

Local

Soil and Groundwater Contamination

In Alameda County, remediation of contaminated sites is performed under the oversight of the ACDEH and the San Francisco Bay RWQCB. The ACDEH implements a local oversight program under contract with the SWRCB to provide regulatory oversight of the investigation and cleanup of soil and groundwater contamination from leaking petroleum USTs and aboveground storage tanks. At sites where contamination is suspected or known to have occurred, the project sponsor is required to perform a site investigation and prepare a remediation plan, if necessary. For typical development projects, actual site remediation is completed either before or during the construction phase of the project. Site remediation or development may be subject to regulation by other agencies. As noted above, several properties slated for acquisition have contaminated soil and groundwater which is currently subject to oversight by ACDEH. Future investigation and remediation of soil or groundwater contamination that is known, or has not yet been identified, would be subject to oversight by ACDEH.

Alameda County Hazardous Waste Management Program

Assembly Bill (AB) 2948 requires counties and cities either to adopt a county hazardous waste management plan as part of their general plan, or enact an ordinance requiring that all applicable zoning subdivision, conditional use permit, and variance decisions be consistent with the county hazardous waste management plan. Once each County had its Hazardous Waste Management Program approved by the State, each city had 180 days to either 1) adopt a City Hazardous Waste Management Plan containing specified elements consistent with the approved County Hazardous

Waste Management Plan, 2) incorporate the applicable portions of the approved Plan, by reference, into the City's General Plan, or 3) enact an ordinance which requires that all applicable zoning, subdivision, conditional use permits, and variance decisions be consistent with the specified portions of the plan. Alameda County has adopted a Hazardous Waste Management Program that addresses procedures for hazardous materials incidents.

Under the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program, the ACDEH is certified by the DTSC to implement the following programs:

- Hazardous Materials Management Plan and Inventory (HMMP) and the Hazardous Materials Business Plan (HMBP)
- Risk Management Program (RMP)
- UST program
- Spill Prevention, Control and Countermeasure (SPCC) Plan for aboveground storage tanks
- Hazardous waste generators
- On-site hazardous waste treatment (tiered permit).

Local Plans and Policies

Discussion of development facilitated by the Proposed Amendments' overall consistency with the Oakland General Plan is provided in Section 4.9, *Land Use, Plans and Policies*, of this EIR. General Plan policies that are also significance criteria or contain a regulatory threshold, which the project must meet, are addressed in this section.

Oakland Urban Land Redevelopment Program

The Oakland Urban Land Redevelopment Program provides a consistent set of guidelines for the application of risk-based corrective actions by clarifying environmental investigation requirements, standardizing the regulatory process, and establishing Oakland-specific, risk based corrective action cleanup standards for qualifying sites. Benefits of standardizing this process include reduced investigation, remediation, and overall project costs; more accurate cost estimating; expedited regulatory approval of the corrective action plans; expedited regulatory site closure; and earlier realization of development goals (City of Oakland Public Works, 2000).

The Urban Land Redevelopment Program includes a three-tiered approach to the investigation of Oakland sites and identification of risk-based cleanup standards.

- Tier 1 Risk Based Screening Levels (RBSLs) and Tier 2 Site Specific Target Levels (SSTLs) are specified for the protection of human health at Oakland sites that meet specific eligibility requirements, where commonly found contaminants are present, and the contaminants are considered to present a relatively low risk. RBSLs and SSTLs are identified for residential and commercial/industrial land uses. These levels are typically lower (more stringent) for residential land uses than for commercial/industrial land uses.

- For more complicated sites that do not meet the eligibility requirements, a Tier 3 analysis using site-specific information would be required to identify SSTLs for the appropriate land use. RBSLs and SSTLs are based on an acceptable carcinogenic risk of 10⁻⁵ and non-carcinogenic hazard index of 1.0.

A risk management plan would be prepared to specify containment measures where contaminants would be left at concentrations greater than the most stringent RBSL. These measures would be used to prevent exposure to any hazardous materials left in place and/or institutional controls that would be employed to ensure the future protection of human health.

The site would also be included in the City of Oakland Permit Tracking System and future permit applications for work that might alter the conditions of site closure would undergo special review by the City of Oakland Fire Department. Implementation of this program is intended to provide assurance that human health and environmental resources will be protected without needlessly delaying future construction and development projects.

Throughout most of Oakland, humans are the primary receptor that may be exposed to hazardous materials because most of the city is urbanized. Ecological receptors such as wildlife and endangered species are generally not of concern. Based on this, the Urban Land Redevelopment Program does not include provisions for development of cleanup levels for sites where there is an existing or potential exposure pathway to ecological receptors or sensitive habitats such as wildlife refuge areas, wetlands, surface water bodies, or other protected areas. For sites where ecological receptors or sensitive habitats may be exposed to hazardous materials, an ecological risk analysis would be required to identify cleanup levels that would be protective of these receptors.

City of Oakland General Plan

- *Safety Element, Chapter 6-Fire Hazards, Policy FI-3*: Prioritize the reduction of the wildfire hazard, with an emphasis on prevention.
- *Safety Element, Chapter 6-Hazardous Materials, Policy HM-1*: Minimize the potential risks to human and environmental health and safety associated with the past and present use, handling, storage and disposal of hazardous materials.

Action HM-1.2: Continue to enforce provisions under the zoning ordinance regulating the location of facilities which use or store hazardous materials.

Action HM-1.4: Continue to participate in the Alameda County Waste Management Authority and, as a participant, continue to implement policies under the county's hazardous-waste management plan to minimize the generation of hazardous wastes.

Action HM-1.6: Through the Urban Land Redevelopment program, and along with other participating agencies, continue to assist developers in the environmental clean-up of contaminated properties.

Action HM-1.7: Create and maintain a database with detailed site information on all brownfields and contaminated sites in the city.

- *Safety Element, Chapter 6-Hazardous Materials, Policy HM -3:* Seek to prevent industrial and transportation accidents involving hazardous materials, and enhance the city's capacity to respond to such incidents.

Action HM-3.1: Continue to enforce regulations limiting truck travel through certain areas of the city to designated routes, and consider establishing timebased restrictions on truck travel on certain routes to reduce the risk and potential impact of accidents during peak traffic hours.

Action HM-3.4: Continue to rely on, and update, the city's hazardous materials area plan to respond to emergencies related to hazardous materials.

Oakland Municipal Code

To protect sensitive receptors from public health effects from a release of hazardous substances, the Oakland Municipal Code, Title 8 Section 42.105 allows the City, at its discretion, to require facilities that handle hazardous substances within 1,000 feet of a residence, school, hospital, or other sensitive receptor to prepare a Hazardous Materials Assessment Report and Remediation Plan (HMARRP).

The HMARRP must include public participation in the planning process, along with the following requirements:

- identify hazardous materials used and stored at the property and the suitability of the site;
- analyze off-site consequences that could occur as a result of a release of hazardous substances (including fire);
- include a health risk assessment; and
- identify remedial measures to reduce or eliminate on-site and off-site hazards.

City of Oakland Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

The City's SCAs relevant to hazards and hazardous materials are listed below for reference. If the Proposed Amendments are approved by the City, then all applicable SCAs would be incorporated into development facilitated by the Proposed Amendments and adopted as conditions of approval and required of the developments to help ensure less-than-significant impacts to hazards and hazardous materials. The SCAs are incorporated and required as part of the development facilitated by the Proposed Amendments, so they are not listed as mitigation measures. Standard Conditions of Approval applicable to potential hazards and hazardous materials impacts due to the development facilitated by the Proposed Amendments include:

- **SCA 35: Hazards Best Management Practices**

Prior to the commencement of demolition, grading, or construction. The project applicant and construction contractor shall ensure that construction of Best Management Practices (BMPs) is implemented as part of construction to minimize the potential negative effects to groundwater and soils. These shall include the following:

- a) Follow manufacturers' recommendations on use, storage, and disposal of chemical products used in construction;
 - b) Avoid overtopping construction equipment fuel gas tanks;
 - c) During routine maintenance of construction equipment, properly contain and remove grease and oils;
 - d) Properly dispose of discarded containers of fuels and other chemicals.
 - e) Ensure that construction would not have a significant impact on the environment or pose a substantial health risk to construction workers and the occupants of the proposed development. Soil sampling and chemical analyses of samples shall be performed to determine the extent of potential contamination beneath all UST's, elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition, or construction activities would potentially affect a particular development or building.
 - f) If soil, groundwater or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the applicant shall cease work in the vicinity of the suspect material, the area shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notification of regulatory agency(ies) and implementation of the actions described in the City's Standard Conditions of Approval, as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s) affected until the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.
- **SCA 61: Site Review by the Fire Services Division**
Prior to the issuance of demolition, grading or building permit. The project applicant shall submit plans for site review and approval to the Fire Prevention Bureau Hazardous Materials Unit. Property owner may be required to obtain or perform a Phase II hazard assessment.
 - **SCA 63: Lead-based Paint Remediation**
Prior to issuance of any demolition, grading or building permit. If lead-based paint is present, the project applicant shall submit specifications to the Fire Prevention Bureau, Hazardous Materials Unit signed by a certified Lead Supervisor, Project Monitor, or Project Designer for the stabilization and/or removal of the identified lead paint in accordance with all applicable laws and regulations, including but not necessarily limited to: Cal/OSHA's Construction Lead Standard, 8 CCR1532.1 and DHS regulation 17 CCR Sections 35001 through 36100, as may be amended.
 - **SCA 66: Other Materials Classified as Hazardous Waste**
Prior to issuance of any demolition, grading or building permit. If other materials classified as hazardous waste by State or federal law are present, the project applicant shall submit written confirmation to Fire Prevention Bureau, Hazardous Materials Unit that all State and federal laws and regulations shall be followed when profiling, handling, treating, transporting and/or disposing of such materials.

- **SCA 67: Health and Safety Plan per Assessment**

Prior to issuance of any demolition, grading or building permit. If the required lead-based paint/coatings, asbestos, or PCB assessment finds presence of such materials, the project applicant shall create and implement a health and safety plan to protect workers from risks associated with hazardous materials during demolition, renovation of affected structures, and transport and disposal.

- **SCA 68: Best Management Practices for Soil and Groundwater Hazards**

The project applicant shall implement all of the following Best Management Practices (BMPs) regarding potential soil and groundwater hazards:

- a) Soil generated by construction activities shall be stockpiled onsite in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Specific sampling and handling and transport procedures for reuse or disposal shall be in accordance with applicable local, state and federal agencies laws, in particular, the Regional Water Quality Control Board (RWQCB) and/or the Alameda County Department of Environmental Health (ACDEH) and policies of the City of Oakland.
- b) Groundwater pumped from the subsurface shall be contained onsite in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies of the City of Oakland, the RWQCB and/or the ACDEH. Engineering controls shall be utilized, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building (pursuant to the Standard Condition of Approval regarding Radon or Vapor Intrusion from Soil and Groundwater Sources);
- c) Prior to issuance of any demolition, grading, or building permit, the applicant shall submit for review and approval by the City of Oakland, written verification that the appropriate federal, state or county oversight authorities, including but not limited to the RWQCB and/or the ACDEH, have granted all required clearances and confirmed that the all applicable standards, regulations and conditions for all previous contamination at the site. The applicant also shall provide evidence from the City's Fire Department, Office of Emergency Services, indicating compliance with the Standard Condition of Approval requiring a Site Review by the Fire Services Division pursuant to City Ordinance No. 12323, and compliance with the Standard Condition of Approval requiring a Phase I and/or Phase II Reports.

- **SCA 69: Radon or Vapor Intrusion from Soil or Groundwater Sources**

The project applicant shall submit documentation to determine whether radon or vapor intrusion from the groundwater and soil is located on-site as part of the Phase I documents. The Phase I analysis shall be submitted to the Fire Prevention Bureau, Hazardous Materials Unit, for review and approval, along with a Phase II report if warranted by the Phase I report for the project site. The reports shall make recommendations for remedial action, if appropriate, and should be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer. Applicant shall implement the approved recommendations.

- **SCA 74: Hazardous Materials Business Plan**

Prior to issuance of a business license. The project applicant shall submit a Hazardous Materials Business Plan for review and approval by Fire Prevention Bureau, Hazardous Materials Unit. Once approved this plan shall be kept on file with the City and will be updated as applicable. The purpose of the Hazardous Business Plan is to ensure that employees are adequately trained to handle the materials and provides information to the Fire Services Division should emergency response be required. The Hazardous Materials Business Plan shall include the following:

- a) The types of hazardous materials or chemicals stored and/or used on site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids.
- b) The location of such hazardous materials.
- c) An emergency response plan including employee training information.
- d) A plan that describes the manner in which these materials are handled, transported and disposed.

- **SCA 41: Asbestos Removal in Structures**

Prior to issuance of a demolition permit If asbestos-containing materials (ACM) are found to be present in building materials to be removed, demolition and disposal, the project applicant shall submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health & Safety Code 25915-25919.7; and Bay Area Air Quality Management District, Regulation 11, Rule 2, as may be amended.

4.7.3 Impacts and Mitigation Measures

Significance Criteria

Development facilitated by the Proposed Amendments would have a significant impact on the environment if it would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
4. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;

5. Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and would result in a safety hazard for people residing or working in the project area;
6. Be located within the vicinity of a private airstrip, and would result in a safety hazard for people residing or working in the project area;
7. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
8. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Approach to Analysis

Retail, residential, office and commercial activities within the Project Area typically use hazardous chemicals common in these types of settings. These chemicals would include familiar materials, such as toners, paints, lubricants, kitchen and restroom cleaners, and other maintenance materials as well as chemicals used during operations. These common consumer products would be used for the same purposes as in any office or support setting, including residences. Retail uses can also handle hazardous materials that are stored in containers provided by manufacturer. The amounts of hazardous materials that would be stored or handled cannot be determined at this time, however assumptions can be made that the amounts of hazardous materials and waste would not significantly change from existing conditions.

Based on the characteristics of development facilitated by the Proposed Amendments and the existing conditions, development facilitated by the Proposed Amendments would not result in impacts related to safety hazards associated with an airstrip or airport, interfere with an adopted emergency response or evacuation plan, or expose people and structures to wildland fires. No impact discussion is provided for these topics for the following reasons:

1. *Interfere with Airstrip/Airport.* The Project Area is located more than two miles from the nearest airstrip or airport and therefore, would not interfere with any airport use plan or otherwise create a safety hazard related to any such facility.
2. *Emergency Response/Evacuation Plan.* Overall, the development facilitated by the Proposed Amendments would not impede an emergency access route and would continue to maintain the existing city grid system. Additionally, the development facilitated by the Proposed Amendments would not result in permanent road closures, and therefore, would not physically interfere with emergency response or evacuation plans. In addition, construction activities that would result in temporary road closures would include traffic control plans to ensure emergency vehicle access and therefore would not cause an impact.
3. *Wildland Fires.* The Project Area is located in an urbanized area that is not adjacent to any wildland areas. Fire protection services are provided by the City of Oakland Fire Department and all proposed new construction would be constructed according to the most current fire safety code requirements. Therefore, development facilitated by the Proposed Amendments would not be susceptible to wildland fires and there is no impact.

Impacts

Hazardous Materials Use, Storage and Disposal

Impact HAZ-1: Development facilitated by the Proposed Amendments would result in an increase in the routine transportation, use, and storage of hazardous chemicals. (Less than Significant)

Ongoing commercial, retail and residential activities in the Project Area involve the use of chemical compounds and products that are considered hazardous materials. Implementation of development facilitated by the Proposed Amendments could require the transportation, use and storage of additional quantities of hazardous materials to new businesses and entities. Accidental release of these hazardous materials could result in risks to public health and safety. If not handled, stored, or transported appropriately, these impacts could be potentially significant.

Implementation of development facilitated by the Proposed Amendments would require project-level environmental review, as needed and appropriate. This review would include an assessment of potential risks resulting from the site specific transport, use and disposal of hazardous materials pursuant to the California Environmental Quality Act (CEQA). However, handling and use of these hazardous materials and the disposal of the resulting hazardous wastes would be required to follow the applicable laws and regulations, as described in *Regulatory Setting* above. Additionally, projects requiring the use and disposal of hazardous materials would be required to comply with a project-specific HMBP as required by SCA 35: *Best Management Practices*.

Hazardous materials would be stored according to manufacturer's recommendations and according to the specifications within the project-specific HMMP and HMBP. As required, the hazardous materials would be stored in locations according to compatibility and in storage enclosures (i.e., flammable material storage cabinets) or in areas or rooms specially designed, protected, and contained for such storage, in accordance with applicable regulations. Hazardous materials would be handled and used in accordance with applicable regulations by personnel that have been trained in the handling and use of the material and that have received proper hazard-communication training. Hazardous materials reporting (i.e., California Hazardous Materials Business Planning, California Proposition 65 notification, and Emergency Planning and Community-Right-to-Know Act reporting) would be completed as required.

All hazardous materials would be transported to the Project Area in accordance with applicable hazardous materials shipping regulations. Hazardous materials and waste would be delivered, stored, and handled in accordance with the HMMP. The HMMP would also provide details on appropriate personal protective equipment, disposal procedures, and spill response measures in the case of accidental upset conditions. Required compliance with applicable regulatory requirements would minimize hazards to workers, visitors, the public, and the environment from waste products. Additionally, implementation of SCA 35, *Hazards Best Management Practices*, would further reduce potential impacts. As a result of these requirements, impacts resulting from hazardous materials and hazardous waste transport, use and disposal would be less than significant.

Mitigation: None Required.

Impact HAZ-2: Development facilitated by the Proposed Amendments would result in the accidental release of hazardous materials used during construction through improper handling or storage. (Less than Significant)

Implementation of development facilitated by the Proposed Amendments could require construction activities which would use certain hazardous materials such as fuels, oils, lubricants, solvents, and glues. Inadvertent release of large quantities of these materials into the environment could adversely impact soil, surface waters, or groundwater quality. These impacts would be potentially significant.

However, the hazardous materials used on a construction site would be used in accordance with manufacturer recommendations. Spills of hazardous materials on construction sites are typically localized and are cleaned up in a timely manner. In most cases, the individual construction contractors are responsible for their hazardous materials and are required under their contract to properly store and dispose of these materials in compliance with state and federal laws. Additionally, the use of construction best management practices which would be required to be implemented as part of construction and required by SCA 35, *Hazards Best Management Practices*, would minimize the potential adverse effects to groundwater and soils.

Given the use of best management practices as required by the individual construction contractors, the threat of exposure to the public or contamination to soil and groundwater from construction-related hazardous materials is considered less than significant.

Mitigation: None Required.

Exposure to Hazardous Materials

Impact HAZ-3: Development facilitated by the Proposed Amendments would result in the exposure of hazardous materials in soil and ground water. (Less than Significant)

Development facilitated by the Proposed Amendments could require excavation for installation of building foundations and underground utilities. Some of the excavation could be substantial. The development sites could have had a documented past release that has contaminated subsurface soils and groundwater or a previously unknown release that would be exposed during excavation activities. Known sites currently listed in the Project Area are discussed above in the Environmental Setting section and listed in Table 4.7-1. Consequently, construction in the Project Area could potentially intercept and disturb impacted soil and/or groundwater. Disturbed contaminated soils could expose construction workers and the public to contaminants causing

various short-term health effects such as nausea, vomiting, headache, dizziness, or burns. These impacts would be considered potentially significant.

Implementation of a project could require land transfers under eminent domain; purchase, gift, exchange, or condemnations of land; or changes to land use designations. If a specific development site is the location of a documented release of hazardous materials and is listed on a regulatory database it would be subject to site cleanup regulations as required by a designated regulatory agency, such as the SWRCB or DTSC. If the proposed land use were more sensitive than the existing land use, such as changing a commercial building to a residential unit, more stringent clean up regulations would apply even if the site has been considered remediated or closed based on complying with standards for its current land use. However, compliance with standards set forth in the Oakland Urban Land Redevelopment Program would ensure any redeveloped site undergoes risk-based corrective action.

Specific Projects proposed would undergo Project-level environmental review as appropriate. This would include an assessment of potential risks resulting from the exposure of hazardous materials in soil and groundwater pursuant to the CEQA. Projects proposed under the Proposed Amendments would require a review of environmental databases for a given project site. If database review indicates there is contamination at the site, construction and operation of the project would be subject to the stringent state and local policies regarding the handling of contaminated soils and groundwater. Compliance with the Oakland Urban Land Redevelopment Program, SCA 68, *Best Management Practices for Soil and Groundwater Hazards*, and SCA 69, *Radon or Vapor Intrusion from Soil or Groundwater Sources*, would be required, ensuring that any potential impacts are less than significant.

Mitigation: None Required.

Impact HAZ-4: Development facilitated by the Proposed Amendments would result in the exposure of hazardous building materials during building demolition. (Less than Significant)

Demolition of existing structures or portions thereof within the Project Area may expose construction workers, the public, or the environment to hazardous materials such as lead-based paint, asbestos, and PCBs. The level of potential impact is dependent upon the age, construction, and building materials in each area of the building. As discussed above, asbestos containing materials may be present at the site which, if disturbed, could expose workers and the public during demolition. Any remaining asbestos containing materials would need appropriate abatement of identified asbestos prior to demolition. Asbestos containing materials are regulated both as a hazardous air pollutant under the Clean Air Act and as a potential worker safety hazard under the authority of Cal-OSHA. Cal-OSHA also regulates worker exposure to lead-based paint. These impacts would be potentially significant.

Potential exposure to these hazardous building materials will be reduced through appropriate identification, removal and disposal according to applicable regulations to less-than-significant levels. In structures slated for demolition for development facilitated by the Proposed Amendments, any asbestos-containing materials would be abated in accordance with state and federal regulations prior to the start of demolition or renovation activities. Section 19827.5 of the California Health and Safety Code requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. The BAAQMD is vested by the California legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and is to be notified 10 days in advance of any proposed demolition or abatement work.

Notification includes the names and addresses of operations and persons responsible; description and location of the structure to be demolished/altered including size, age, and prior use, and the approximate amount of friable asbestos; scheduled starting and completion dates of demolition or abatement; nature of planned work and methods to be employed; procedures to be employed to meet BAAQMD requirements; and the name and location of the waste disposal site to be used. The BAAQMD randomly inspects asbestos removal operations and will inspect any removal operation about which a complaint has been received.

Asbestos abatement contractors must follow state regulations contained in 8 CCR 1529 and 8 CCR 341.6 through 341.14 where there is asbestos-related work involving 100 square feet or more of asbestos-containing material. Asbestos removal contractors must be certified as such by the Contractors Licensing Board of the State of California. The owner of the property where abatement is to occur must have a hazardous waste generator number assigned by and registered with the DTSC in Sacramento. The site owner or responsible party and the transporter of the waste are required to file a hazardous waste manifest that details the transportation of the material from the site and its disposal.

Both the federal OSHA and Cal-OSHA regulate worker exposure during construction activities that disturb lead-based paint. The Interim Final Rule found in 29 CFR 1926.62 covers construction work in which employees may be exposed to lead during such activities as demolition, removal, surface preparation for repainting, renovation, cleanup, and routine maintenance. The OSHA-specified compliance includes respiratory protection, protective clothing, housekeeping, special high-efficiency filtered vacuums, hygiene facilities, medical surveillance, and training. No minimum level of lead is specified to activate the provisions of this regulation.

Compliance with these regulations and procedures, as well as SCA 65, *Lead-base Paint Remediation*, and SCA 41, *Asbestos Removal in Structures*, would ensure that any potential impacts due to lead-base paint or asbestos are less than significant.

Fluorescent lighting ballasts manufactured prior to 1978, and electrical transformers, capacitors, and generators manufactured prior to 1977, may contain PCBs. In accordance with the Toxic Substances Control Act and other federal and state regulations, development facilitated by the

Proposed Amendments would be required to properly handle and dispose of electrical equipment and lighting ballasts that contain PCBs, reducing potential impacts to a less-than-significant level.

Mitigation: None Required.

Hazardous Materials within a Quarter Mile of a School

Impact HAZ-5: Development facilitated by the Proposed Amendments would require use of hazardous materials within 0.25 mile of a school. (Less than Significant)

There is one school within the Project Area – Lincoln Elementary School on 225 11th Street. Laney Community College, which also houses a Gateway to College High School, is directly south of the Project Area at 900 Fallon Street (OUSD, 2010). As discussed in the Environmental Setting section and *Impact HAZ-1* above, development facilitated by the Proposed Amendments as well as existing, zoned land uses in the Project Area could require the use, transport and storage of hazardous materials. In the event of an accidental release of hazardous materials in the vicinity of a school, as outlined below, these potential risks would be less than significant given incorporation of SCAs and other existing regulatory requirements.

Implementation of projects proposed under the Proposed Amendments would require design-level environmental review as needed and appropriate. This would include an assessment of potential hazards to schools pursuant to the CEQA. Consequently, development facilitated by the Proposed Amendments would be required to comply with City of Oakland's Ordinances and General Plan Policies require hazardous material handlers within 1,000 feet of a school or other sensitive receptor to prepare a Hazardous Materials Assessment Report and Remediation Plan (HMARRP). The HMARRP would disclose the use of hazardous materials at the site, conduct assessments of potential off-site risks (such as a Health Risk Assessment), and implement precautions to reduce identified risks. The HMARRP must identify hazardous materials used at a project site, the potential on-site and off-site risks, and measures to be implemented to reduce or eliminate these risks. The HMARRP is subject to review and approval by the City of Oakland and public review and comment to ensure that potential threats to public health are adequately addressed. Additionally, those handling or storing hazardous materials would be required to prepare a Hazardous Materials Management Plan (HMMP) and Hazardous Materials Business Plan (HMBP) as required by Alameda County and the City's SCA 74, *Hazardous Materials Business Plan*. Completing these requirements would reduce to a less-than-significant level the potential for an unacceptable release of hazardous materials within 0.25 mile of a school.

Mitigation: None Required.

Cumulative Impacts

Impact HAZ-6: Development facilitated by the Proposed Amendments, when combined with other past, present, existing, approved, pending and reasonably foreseeable development in the vicinity, would result in cumulative hazards. (Less than Significant)

Geographic Context

The cumulative geographic context for hazardous materials for the development facilitated by the Proposed Amendments consists of the Project Area in addition to all areas of the city and area roadways used to transport hazardous materials.

Impacts

Cumulative health and safety effects could occur if activities in the Project Area and other existing and proposed development, together, could increase risks in the Project Area. Cumulative health and safety impacts could occur if outdoor or off-site hazards related to development facilitated by the Proposed Amendments were to interact or combine with those of other cumulative development within and around the Project Area (as described in Major Projects List in Appendix B to this Draft EIR, and discussed in Section 4.07.2, *Cumulative Context*, at the beginning of Chapter 4 of this Draft EIR). These impacts could occur through limited mechanisms: air emissions, transport of hazardous materials and waste to or from the project site, inadvertent release of hazardous materials to the sewer or non-hazardous waste landfill, and potential accidents that require hazardous materials emergency response capabilities. Air emissions are addressed in Section 4.2, *Air Quality*. The other mechanisms for cumulative off-site effects are discussed below.

Because several development projects within the Central District Area could involve the same roads used by other proposed developments in the Project Area, the development facilitated by the Proposed Amendments could contribute to cumulative increases in the amount of hazardous material transported to and from the Project Area. Cumulative increases in the transportation of hazardous materials and wastes would cause a less-than-significant impact because the probability of such accidents is relatively low due to the stringent policies regulated the transport, use and storage of hazardous materials. Development projects in the Project Area would be required to comply with the City's SCA 66, *Other Materials Classified as Hazardous Waste*, and SCA 74, *Hazardous Materials Business Plan*, which outlines the guidance for transporting hazardous materials safely to and from the project sites, in addition to SCA 61, *Site Review by Fire Services Division*, to ensure overall compliance of projects for hazardous materials.

Development facilitated by the Proposed Amendments would contribute to cumulative increases in the demand for hazardous materials emergency response capabilities in Oakland. Any growth involving increased hazardous materials use has the potential to increase the demand for emergency response capabilities in the area. However, first response capabilities and hazardous materials emergency response capabilities are currently available and sufficient for all cumulative projects. Furthermore, substantive hazardous materials accidents at the project site or vicinity are expected to be rare, and when such incidents would occur, only one such incident would be

expected at any one time (except during major catastrophes, such as major earthquakes). Due to the controls in place at the site, no off-site effects would be expected. Furthermore, additional hazardous materials response services could be available through other jurisdictions, and private hazardous materials emergency response agencies could be used. Therefore, this cumulative impact would be less than significant.

Mitigation: None Required.

4.7.4 References

California State Regional Water Quality Control Board, available online at <http://www.geotracker.swrcb.gov>, accessed November 8, 2010.

City of Oakland, City of Oakland General Plan Safety Element, adopted November 2004.

City of Oakland Public Works, Oakland Urban Land Redevelopment Program Guidance Document, January 2000.

Department of Toxic Substances Control, Envirostor Database, available online at <http://www.envirostor.dtsc.ca.gov/public/>, accessed November 8, 2010.

Oakland Unified School District (OUSD), District Locations Map, available online at <http://publicportal.ousd.k12.ca.us/19941010614854177/site/default.asp>, accessed November 8, 2010.

4.8 Hydrology and Water Quality

This section identifies any potentially significant hydrology and water quality impacts and, if necessary, appropriate mitigation measures or standard conditions of approval.

4.8.1 Environmental Setting

Regional Drainage Patterns

The Project Area is located within the San Francisco Bay hydrologic region. San Francisco Bay provides a topographic separation between the northern and southern coastal mountain ranges. The San Francisco Bay estuarine system conveys the waters of the San Joaquin and Sacramento rivers into the Pacific Ocean. These rivers enter the San Francisco Bay at the eastern end of Suisun Bay. The Project Area is part of the St. Ettie Pump Station Watershed, San Antonio Creek Watershed and Glen Echo Creek Watershed of the east bay region (Oakland Museum, 2010).

Local Drainage Patterns

The Project Area is relatively flat and drainage patterns vary with local topography. The Project Area is largely developed and surface runoff is generally captured by City of Oakland drainage systems. For a small northeastern portion of the Project Area between 25th and 28th Streets and east of Telegraph, drainage patterns generally flow east towards Glen Echo-Rockridge Creek and eventually into Lake Merritt, Lake Merritt Channel (San Antonio Slough), Oakland Estuary, and subsequently into San Francisco Bay. For the majority of the site, south of 25th Street, drainage generally flows to the south toward San Antonio Creek and eventually into the Bay. Additionally, drainage patterns west of San Pablo, between 21st and 13th Streets generally flow northwestward into the St. Ettie Pump Station Watershed.

Surface Water

The major surface water bodies in the Project Area include Glen Echo-Rockridge Creek and Lake Merritt. Additionally, San Antonio Creek, the Oakland Estuary, and San Francisco Bay are in the project vicinity. A number of other creeks flow into Lake Merritt, which subsequently drains into the Lake Merritt Channel (San Antonio Slough), Oakland Estuary, and San Francisco Bay. Lake Merritt is a 140-acre tidal estuary that was formed thousands of years ago and has been extensively modified in the past 150 years (Lake Merritt Institute, 2010). The depth of Lake Merritt ranges from approximately eight to 10 feet. The lake is flushed twice daily by tides and receives freshwater from 60 storm drains. Therefore, the lake has a mixture of freshwater and saltwater.

Water Quality

The Project Area lies in a predominantly urbanized area adjacent to San Francisco Bay. The Lower San Francisco Bay is classified as a 303(d)-listed impaired water body due to high levels of numerous contaminants and exotic species (RWQCB, 2006). Lake Merritt is classified as a

303(d)-listed impaired water body and Wildlife Refuge due to organic enrichment/low dissolved oxygen and high levels of trash (Coastal Commission, 2006). The trash primarily enters the lake through urban runoff and storm sewers. In 2006, the Coastal Commission identified bacteria as another pollutant of concern (Coastal Commission, 2006). More details about the 303(d) classification are in the *Regulatory Setting* section below.

Stormwater Runoff and Drainage Facilities

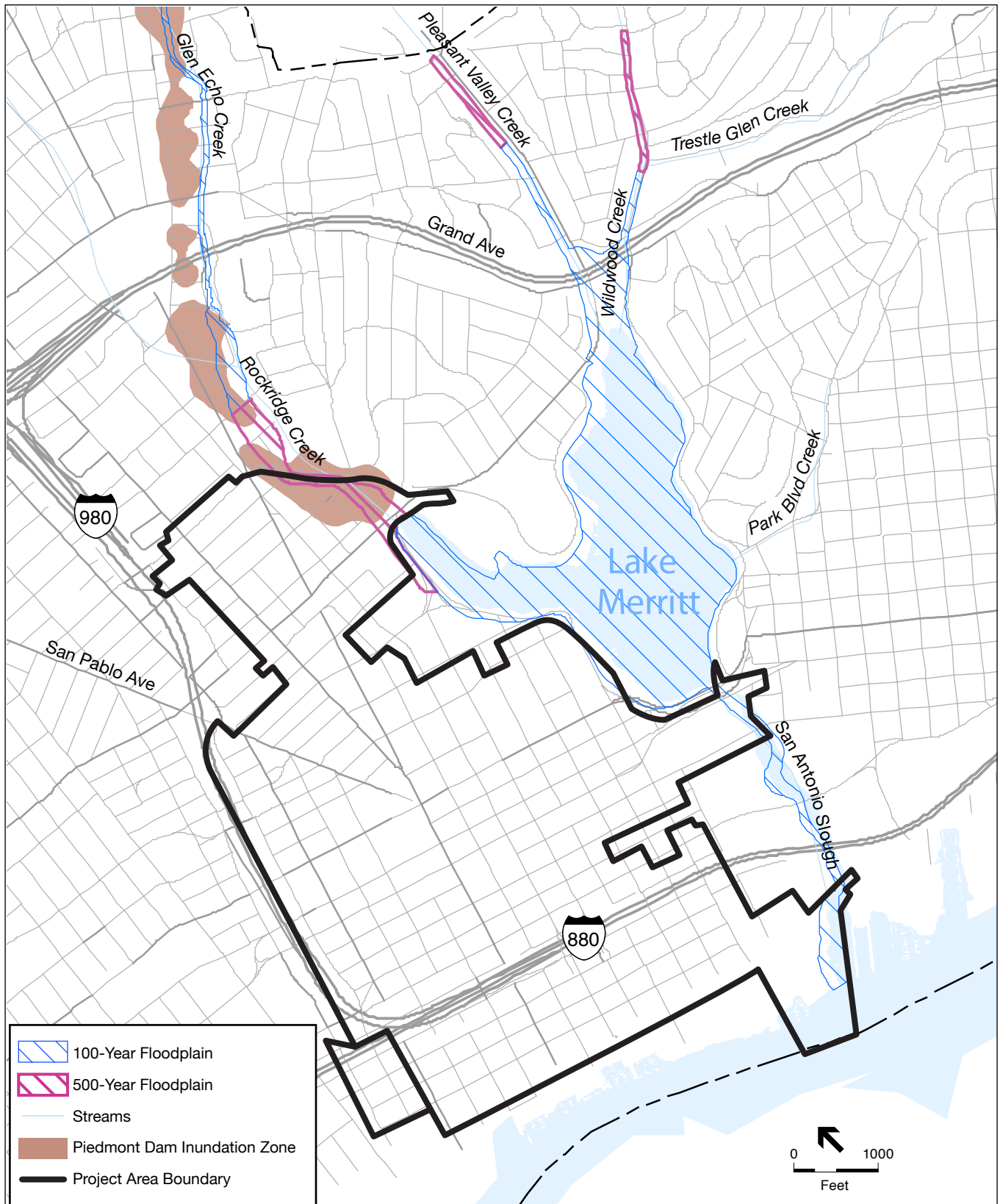
Stormwater runoff in Oakland is generally collected from the Oakland-Berkeley Hills to the northeast through the developed flatlands where it then flows primarily through underground storm drains and culverts to the San Francisco Bay via the Oakland Estuary (directly or by way of Lake Merritt) or through the city of Emeryville. The Alameda County Flood Control and Water Conservation District (ACFCWCD) constructs, operates, and maintains major trunk lines and flood-control facilities in Oakland, and the Oakland Public Works Agency (PWA) is responsible for construction and maintenance of the local storm drainage system within Oakland's public areas and roads. Stormwater runoff is conveyed in the Project Area through onsite pavement gutters, surface drains, parking lots, and roof drains that discharge to local surface waters.

Flooding

Flooding is inundation of normally dry land as a result of rapid accumulation of stormwater runoff or rise in the level of surface waters. Flooding becomes a hazard when the flow of water exposes people or structures to a significant risk of loss, injury, or death. Flooding generally occurs due to excess runoff due to heavy snowmelt or rainfall, but it can also result from the interaction with natural hazards, such as tsunamis, seiches, or failure of dams.

The Federal Emergency Management Agency (FEMA), through its Flood Insurance Rate Map (FIRM) program, designates areas where flooding could occur during a one percent annual chance (100-year) or a 0.2 percent annual chance (500-year) flood events. As shown in **Figure 4.8-1**, Dam Inundation Zones and Flood Zones, the northeastern project boundary, between Grand Avenue and 28th Street, is located along an area determined to be within the 0.2 percent annual chance flood, designated as Zone X on the FIRM Community-Panel Numbers 06001C0059G and 06001C0067G. A portion of the Project Area just south of Lake Merritt along San Antonio Slough (Lake Merritt Channel) is determined to be within the one percent annual chance flood, designated as Zone A by FEMA (FEMA, 2009).

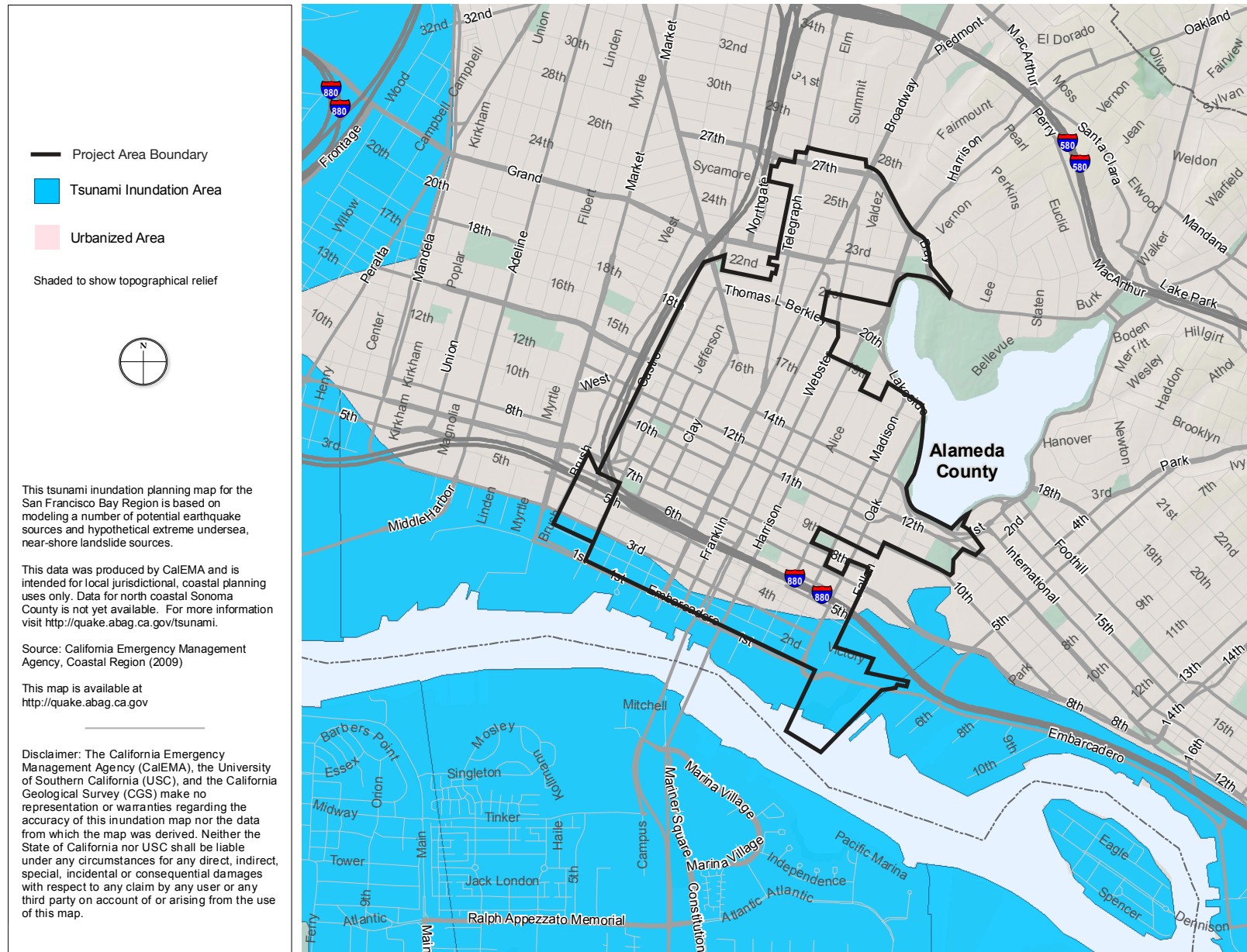
Tsunamis are waves caused by an underwater earthquake, landslide, or volcanic eruption. Seiches are waves in a semi-enclosed or enclosed body of water such as a lake, reservoir, or harbor. Inundation from tsunamis could affect low-lying Project Area along the Oakland Estuary and San Francisco Bay, as far north as 4th Street as shown in **Figure 4.8-2**, Tsunami Inundation Area, (ABAG, 2010a). The depths of inundation would vary and a single event would not necessarily inundate the entire area shown in Figure 4.8-2 (ABAG, 2010a). The occurrence of devastating seiches in Oakland is unlikely (City of Oakland, 2004).



SOURCE: City of Oakland, 2006; FEMA; ABAG

Proposed Amendments to the Central District Urban Renewal Plan . 210505.01

Figure 4.8-1
Dam Inundation Zones and Flood Zones



SOURCE: ABAG

Proposed Amendments to the Central District Urban Renewal Plan . 210505.01

Figure 4.8-2
Tsunami Inundation Area

Flooding could also occur due to dam failure. The California Department of Water Resources, Division of Safety of Dams (DSOD) oversees the construction of dams that are over 25 feet high and impound over 15 acre-feet of water, or those that are over six feet high and impound over 50 acre-feet of water. The DSOD requires dam owners to develop maps designating potential dam failure. ABAG compiled these maps into a central database for many bay area cities. Based on these maps, the Project Area would be at risk for dam failure inundation along the northeastern Project Area boundary between Grand Avenue and 28th Street (see Figure 4.8-1). Inundation in this area could originate from up to two different dams—the dam at Piedmont Reservoir and the dam at Dingee Reservoir (ABAG, 2010b).

Sea Level Rise

Future potential sea level rise associated with climate change may pose risks of inundation to existing and proposed development located in low-lying areas close to San Francisco Bay, including the Oakland Shoreline. Periodic flooding could occur as a result of climate-induced increases in the level of San Francisco Bay waters, combined with other factors such as tidal cycles, storm surge, wind waves and swell, or seismic waves.

The rate of potential future sea level rise is difficult to project, and estimates vary substantially among the thousands of scientific research documents available on climate change and sea level rise. Based on the most widely accepted literature, the following examples provide a reasonable range of low, medium, and high estimates of future potential sea level rise that could likely occur.

1. Low Rate of Increase: The rate of future potential sea level rise could occur according to the low end of the range of sea level rise projections for the emissions scenarios presented in the Fourth Assessment Report by the Intergovernmental Panel on Climate Change. Relative to sea levels in the year 2000, sea level is projected to rise 3 inches by 2050, and 12 inches by 2100 (IPCC, 2007).
2. Medium Rate of Increase: The rate of future potential sea level rise could occur according to estimates by the California Climate Change Center, which indicate that sea level is projected to rise by up to 35 inches by 2100 (CEC, 2009).
3. High Rate of Increase: Future potential sea level rise could occur at a higher rate, possibly resulting in an increase of 16 inches by 2050, and 55 inches (or higher) by 2100.

These values have been cited by both San Francisco Bay Conservation and Development Commission (BCDC) in its *Living with Rising Seas* report and the State of California in its *2009 Draft Climate Adaptation Strategy*. Both reports recommend using this upper end of the range as guidance to local and State agencies planning for sea level rise, and are consistent with recent predictions made by the Pacific Institute.

Other factors, including nonlinear effects associated with potential instability of the Greenland and Antarctic ice sheets, have also been discussed in the literature. However, the potential contributions to future sea level rise from ice melt have not been definitively established and such factors in general are not considered when analyzing potential sea level rise impacts.

Groundwater

A groundwater basin is a hydrogeologic unit containing several connected and interrelated aquifers or one large aquifer. The Project Area lies in the East Bay Plain Groundwater Basin (Basin No. 2-9-04), which extends from Richmond to Hayward. The basin is a northwest-trending alluvial plain bounded on the west by San Francisco Bay, on the north by San Pablo Bay, on the east by Franciscan Basement rock, and on the south by the Niles Cone Groundwater Basin (DWR, 2004). The alluvial materials that extend westward from the East Bay hills to San Francisco Bay constitute the deep water-bearing strata for the groundwater basin (DWR, 2004). The basin is identified as a potential water source for agricultural, industrial, and municipal use (RWQCB, 2007). Since the early 1950s, historic groundwater levels in the deep aquifer in the basin have varied between 10 and 140 feet mean sea level (DWR, 2004). Groundwater in the Project Area occurs at relatively shallow depths but there are no water supply wells in the Project Area.

4.8.2 Regulatory Setting

Federal, state, and local agencies regulate activities that could affect hydrological and water quality features in the Project Area. This section describes the regulatory framework that would apply to development facilitated by the Proposed Amendments.

Federal

Clean Water Act (CWA)

The CWA established the basic structure for regulating discharges of pollutants into the waters of the U.S. and gave the USEPA the authority to implement pollution control programs such as setting wastewater standards for industry. The CWA sets water quality standards for all contaminants in surface waters. The statute employs a variety of regulatory and nonregulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The U.S. Army Corps of Engineers (USACE) has jurisdiction over all waters of the U.S. including, but not limited to, perennial and intermittent streams, lakes, and ponds, as well as wetlands in marshes, wet meadows, and side hill seeps. Under Section 401 of the CWA every applicant for a federal permit or license for any activity which may result in a discharge to a water body must obtain State Water Quality Certification that the proposed activity will comply with state water quality standards.

The National Pollutant Discharge Elimination System (NPDES) permit program under the CWA controls water pollution by regulating point and nonpoint sources that discharge pollutants into “waters of the U.S.” California has an approved state NPDES program. The USEPA has delegated authority for NPDES permitting to the California State Water Resources Control Board (SWRCB), which has nine regional boards. The San Francisco Bay RWQCB regulates water quality in the Project Area.

Section 303(d) of the CWA requires that each state identify water bodies or segments of water bodies that are “impaired” (i.e., not meeting one or more of the water quality standards established by the state). These waters are identified in the Section 303(d) list as waters that are polluted and

need further attention to support their beneficial uses. Once the water body or segment is listed, the state is required to establish Total Maximum Daily Load (TMDL) for the pollutant causing the conditions of impairment. TMDL is the maximum amount of a pollutant that a water body can receive and still meet water quality standards. Generally, TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The intent of the Section 303(d) list is to identify water bodies that require future development of a TMDL to maintain water quality.

In accordance with Section 303(d), the San Francisco Bay RWQCB has identified impaired water bodies within its jurisdiction, along with the pollutant or stressor responsible for impairing the water quality (SWRCB, 2007). In the San Francisco Bay region, the RWQCB has designated the South Basin of San Francisco Bay as an impaired water body. Pollutants that contribute to this impairment are chlordane, DDT, diazinon, dieldrin, dioxin compounds, exotic species, furan compounds, mercury, polychlorinated biphenyls, and selenium (SWRCB, 2007). Lake Merritt is listed by SWRCB as an impaired water body for organic enrichment/low dissolved oxygen and trash. It is also listed as impaired for bacteria by the Coastal Commission (Coastal Commission, 2006).

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, Division 7 of the California Water Code, allows the SWRCB to adopt statewide water quality control plans. The purpose of the plans is to establish water quality objectives for specific water bodies. The act also authorizes the NPDES program under the CWA, which establishes water quality requirements for discharges to waters of the state. Most of the implementation of SWRCB's responsibilities is delegated to nine regional boards. The San Francisco Bay RWQCB has established permit requirements for stormwater runoff for the Project Area (see *Regulatory Setting* section below).

California Toxics Rule

Under the California Toxics Rule, the USEPA has proposed water quality criteria for priority toxic pollutants for inland surface waters, enclosed bays, and estuaries. These federally promulgated criteria create water quality standards for California waters. The California Toxic Rule satisfies CWA requirements and protects public health and the environment. The USEPA and the SWRCB have the authority to enforce these standards. However, actions under the Proposed Amendments could require discharge toxic pollutants directly into the inland surface waters, such as Lake Merritt, or San Francisco Bay, therefore the California Toxic Rule would apply.

Sea Level Rise and Executive Order S-13-08

In November 2008, Governor Arnold Schwarzenegger issued Executive Order S-13-08. The order indicates that future potential sea level rise associated with climate change may have a substantial effect on coastal development, and provides for the formation of an independent panel that will complete a California Sea Level Rise Assessment Report by December 1, 2010. This

report is required to provide (1) relative sea level rise projections specific to California, taking into account issues such as coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates; (2) the range of uncertainty in selected sea level rise projections (3) a synthesis of existing information on projected sea level rise impacts to State infrastructure (such as roads, public facilities, and beaches), natural areas, and coastal and marine ecosystems; and (4) a discussion of future research needs regarding sea level rise for California.

In the interim, the State of California's 2009 Draft Climate Adaptation Strategy report includes guidance to State agencies addressing climate change adaptation, and BCDC has proposed Bay Plan amendment language, which includes guidance for addressing future sea level rise scenarios associated with planning and permitting development in potentially susceptible areas. These are:

- 16 inches by 2050; and
- 55 inches by 2100.

These values represent the upper end of a reasonably conservative range of sea level rise estimates. These values are meant to ensure that projects take these estimates into account when planning infrastructure and development projects, prior to the release of the Final California Sea Level Rise Assessment Report. These upper end estimates are not meant to serve as design criteria for initial improvements; rather, they are provided to ensure that projects take into account future potential sea level rise in their design and planning, and include adaptive management strategies and measures to accommodate such levels when and if they are reached.

Regional

Regional Water Quality Control Board

The San Francisco Bay RWQCB is responsible for the protection of beneficial uses and the water quality of water resources within the San Francisco Bay region. The San Francisco Bay RWQCB administers the NPDES stormwater permitting program and regulates stormwater in the San Francisco Bay region. The City of Oakland is a permittee under the NPDES Municipal Stormwater Permit for the Alameda Countywide Clean Water Program (see below for detailed discussion). Project applicants are required to apply for a NPDES General Permit for discharges associated with project construction activities of greater than one acre.

General Permit

Stormwater discharges from construction activities on one acre or more are regulated by the RWQCB and are subject to the permitting requirements of the NPDES General Permit for Discharges of Stormwater Runoff Associated with Construction Activity (General Construction Permit, 99-08-DWQ). All dischargers are required to obtain coverage under the Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009. The RWQCB established the General Construction Permit program to reduce surface water impacts from construction activities. Construction associated with development facilitated by the Proposed Amendments would be required to comply with the current NPDES permit requirements to control stormwater discharges from the construction site. The General Construction Permit requires the preparation and

implementation of a Stormwater Pollution Prevention Plan (SWPPP) for construction activities. The SWPPP must be prepared before the construction begins, and in certain cases, before demolition begins. The SWPPP must include specifications for BMPs that would need to be implemented during project construction. BMPs are measures that are undertaken to control degradation of surface water by preventing soil erosion or the discharge of pollutants from the construction area. The SWPPP must describe measures to prevent or control runoff after construction is complete and identify procedures for inspecting and maintaining facilities or other project elements. Required elements of a SWPPP include:

1. Site description addressing the elements and characteristics specific to the site
2. Descriptions of BMPs for erosion and sediment controls;
3. BMPs for construction waste handling and disposal;
4. Implementation of approved local plans;
5. Proposed post-construction controls; and
6. Non-stormwater management.

Examples of typical construction BMPs include scheduling or limiting activities to certain times of year, installing sediment barriers such as silt fence and fiber rolls, maintaining equipment and vehicles used for construction, tracking controls such as stabilizing entrances to the construction site, and developing and implementing a spill prevention and cleanup plan. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The California Stormwater Quality Association established BMPs for the State of California in the *California Storm Water Best Management Practice Handbook* (2003).

Regional Water Quality Control Plan

The San Francisco Bay RWQCB prepared the *San Francisco Bay Basin Water Quality Control Plan* (Basin Plan) for San Francisco Bay (RWQCB, 2007). The Basin Plan contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the region and describes beneficial uses of major surface waters and their tributaries. The Basin Plan lists following beneficial uses for the South Basin of San Francisco Bay:

- Ocean, Commercial, and Sport Fishing
- Estuarine Habitat
- Industrial Service Supply
- Fish Migration
- Navigation
- Preservation of Rare and Endangered Species
- Water Contact Recreation
- Noncontact Recreation
- Shellfish Harvesting
- Wildlife Habitat

The Basin Plan identifies the following beneficial uses for Lake Merritt:

- Water Contact Recreation
- Noncontact Recreation
- Fish Spawning
- Wildlife Habitat

For development facilitated by the Proposed Amendments, the RWQCB is responsible for regulating construction activities to ensure the protection of the above beneficial uses.

Alameda County Regulations

The ACFCWCD and the City of Oakland PWA share responsibility for maintaining drainage facilities in Oakland. The Project Area lies within the jurisdiction of Zone 12 of the ACFCWCD (ACFCWCD, 2010). The project applicant would comply with the requirements of these agencies during construction and operation of projects facilitated by the Proposed Amendments.

Alameda Countywide Clean Water Program (ACCWP)

The ACCWP includes 17 member agencies that work together to protect creeks, wetlands and San Francisco Bay. The City of Oakland and ACFCWCD are two of the agencies that participate in the ACCWP. The member agencies have developed performance standards to clarify the requirements of the stormwater pollution prevention program, adopted stormwater management ordinances, conducted extensive education and training programs, and reduced stormwater pollutants from industrial areas and construction sites. In the Project Area, the ACCWP administers the stormwater program to meet CWA requirements by controlling pollution in the local storm drain sewer systems.

The ACCWP is part of the Municipal Regional Stormwater NPDES Permit (MRP) that was adopted by the RWQCB on October 14, 2009. The new NPDES permit (Order R2-2009-0074 Permit No. CAS612008) issued by the RWQCB is designed to enable the ACCWP agencies to meet CWA requirements. The permit addresses the following major program areas: regulatory compliance, focused watershed management, public information/participation, municipal maintenance activities, new development and construction controls, illicit discharge controls, industrial and commercial discharge controls, monitoring and special studies, control of specific pollutants of concern, and performance standards. The permit also includes performance standards for new development and construction activities also referred to as Provision C.3 requirements. The C.3 requirements include measures for Permittees to use in planning appropriate source controls in site designs to include stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges. An additional goal is to prevent increases in runoff flows primarily accomplished through implementation of low impact development (LID) techniques.

“Redevelopment” is defined as a project on a previously developed site that results in the addition or replacement of impervious surface. According to the C.3 provision in the ACCWP NPDES permit, the potential actions under the Proposed Amendments fall in the “significant redevelopment projects” category under Group 1 Projects. A significant redevelopment project is defined as a project on a previously developed site that results in addition or replacement of

total of 43,560 square feet (one acre) or more of impervious surface. The permit requires that in the case of a significant redevelopment project that would result in an increase of, or replacement of, more than 50 percent of the impervious surface of a previously existing development, and the existing development was not subject to stormwater treatment measures, the entire project be included in the treatment measure design.

The C.3 provision also requires preparation of a hydrograph modification management plan (HMP) in cases where the changes in the amount and timing of runoff would increase stormwater discharge rates and/or duration and increase the potential for erosion or other significant adverse impacts to beneficial uses. The actions under the Proposed Amendments shall comply with the provisions of the ACCWP NPDES Permit.

Oakland has jurisdiction over and/or maintenance responsibility for its municipal separate storm drain systems and/or watercourses in the city. Construction activities associated with development facilitated by the Proposed Amendments would be subject to the NPDES permit requirements for stormwater management and discharges.

Local

City of Oakland Municipal Code

The City of Oakland implements the following regulations to protect water quality and water resources:

- *Creek Protection, Stormwater Management, and Discharge Control Ordinance* (part of Chapter 13 of the Oakland Municipal Code). This ordinance prohibits activities that would result in the discharge of pollutants to Oakland's waterways or in damage to creeks, creek functions, or habitat. The ordinance requires the use of standard BMPs to prevent pollution or erosion to creeks and/or storm drains. Additionally, a creek protection permit is required for any construction work on creekside properties. The ordinance establishes comprehensive guidelines for the regulation of discharges to the city's storm drain system and the protection of surface water quality. The ordinance identifies BMPs and other protective measures for development projects. Under the ordinance, the City of Oakland Public Works Agency issues permits for storm drainage facilities that would be connected to existing city drainage facilities. In 1997, the ordinance was amended to include the requirement for a creek protection permit for any construction or related activity on creekside property. The ordinance includes enforcement provisions to provide more effective methods to deter and reduce the discharge of pollutants to the storm drain system, local creeks, and San Francisco Bay. The provisions also list clear guidelines for creekside residents to protect the creek and habitat.
- *Grading Ordinance* (part of Chapter 15 of the Oakland Municipal Code). The Grading Ordinance requires a permit for grading activities on private or public property for projects that exceed certain criteria, such as amount of proposed excavation and degree of site slope. During project construction, the volume of the excavated fill material could exceed 50 cubic yards and could result in a 20 percent slope onsite, or the depth of excavation could exceed five feet at any location. Therefore, the project sponsor would be required to apply for the grading permit and prepare a grading plan, erosion and sedimentation control plan, and drainage plan.

City of Oakland General Plan

The following objectives, policies, and actions from City of Oakland's General Plan are applicable to development facilitated by the Proposed Amendments:

- *OSCAR, Chapter 3-Conservation, Water Resources, Objective CO-5: Water Quality*: To minimize the adverse effects of urbanization on Oakland's groundwater, creeks, lakes, and nearshore waters.
- *Safety Element, Chapter 6-Flooding Hazards, Policy FL-1*: Enforce and update local ordinance, and comply with regional orders that would reduce the risk of storm-induced flooding.

Action FL-1.1: Amend, as necessary, the city's regulations concerning new construction and major improvements to existing structures within flood zones in order to maintain compliance with federal requirements and, thus, remain a participant in the National Federal Insurance Program.

Action FL-1.3: Comply with all applicable performance standards pursuant to the 2003 Alameda countywide National Pollutant Discharge Elimination System municipal stormwater permit that seek to manage increases in stormwater runoff flows from new-development and redevelopment construction projects.

Action FL-1.4: Continue to enforce the grading, erosion, and sedimentation ordinance by prohibiting the discharge of concentrated stormwater flows by other than approved methods.

- *Safety Element, Chapter 6-Flooding Hazards, Policy FL-2*: Continue or strengthen city programs that seek to minimize the storm-induced flooding hazard.

Action FL-2.1: Continue to repair and make structural improvements to storm drains to enable them to perform to their design capacity in handling water flows.

- *Safety Element, Chapter 6-Flooding Hazards, Policy FL-4*: Minimize further the relatively low risks from non-storm-related forms of flooding.

Action FL-4.1: Request from the state Division of Safety of Dams a timeline for the maintenance inspection of all operating dams in the city.

Action FL-4.2: Review for adequacy, and update if necessary, procedures adopted by the city pursuant to the Dam Safety Act for the emergency evacuation of areas located below major water-storage facilities.

Action FL-4.3: Inform shoreline-property owners of the possible long-term economic threat posed by rising sea levels.

Action FL-4.4: Stay informed of emerging scientific information on the subject of rising sea levels, especially on actions that local jurisdictions can take to prevent or mitigate this hazard.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

The City's SCAs relevant to hydrology and water quality are listed below for reference. If the Proposed Amendments are approved by the City, then all applicable SCAs would be incorporated into development facilitated by the Proposed Amendments and adopted as conditions of approval and required of the development facilitated by the Proposed Amendments to help ensure less-than-significant impacts to hydrology and water quality. The SCAs are incorporated and required as part of the development facilitated by the Proposed Amendments, so they are not listed as mitigation measures. Standard Conditions of Approval applicable to potential geologic impacts could also affect hydrologic resources and are listed in Section 4.5, *Geology, Soils and Geohazards*. Standard Conditions of Approval applicable to potential hydrology and water quality impacts due to development facilitated by the Proposed Amendments include:

- **SCA 55: Erosion and Sedimentation Control Plan**

Prior to any grading activities.

- a. The project applicant shall obtain a grading permit if required by the Oakland Grading Regulations pursuant to Section 15.04.780 of the Oakland Municipal Code. The grading permit application shall include an erosion and sedimentation control plan for review and approval by the Building Services Division. The erosion and sedimentation control plan shall include all necessary measures to be taken to prevent excessive stormwater runoff or carrying by stormwater runoff of solid materials on to lands of adjacent property owners, public streets, or to creeks as a result of conditions created by grading operations. The plan shall include, but not be limited to, such measures as short-term erosion control planting, waterproof slope covering, check dams, interceptor ditches, benches, storm drains, dissipation structures, diversion dikes, retarding berms and barriers, devices to trap, store and filter out sediment, and stormwater retention basins. Off-site work by the project applicant may be necessary. The project applicant shall obtain permission or easements necessary for off-site work. There shall be a clear notation that the plan is subject to changes as changing conditions occur. Calculations of anticipated stormwater runoff and sediment volumes shall be included, if required by the Director of Development or designee. The plan shall specify that, after construction is complete, the project applicant shall ensure that the storm drain system shall be inspected and that the project applicant shall clear the system of any debris or sediment.

Ongoing throughout grading and construction activities.

- b. The project applicant shall implement the approved erosion and sedimentation plan. No grading shall occur during the wet weather season (October 15 through April 15) unless specifically authorized in writing by the Building Services Division.

- **SCA 75: Stormwater Pollution Prevention Plan (SWPPP)**

Prior to and ongoing throughout demolition, grading, and/or construction activities. The project applicant must obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit) issued by the State Water Resources Control Board (SWRCB). The project applicant must file a notice of intent (NOI) with the SWRCB. The project applicant will be required to prepare a stormwater pollution prevention plan (SWPPP) and submit the plan for review and approval by the Building Services Division. At a minimum, the SWPPP shall include a description of construction materials, practices,

and equipment storage and maintenance; a list of pollutants likely to contact stormwater; site-specific erosion and sedimentation control practices; a list of provisions to eliminate or reduce discharge of materials to stormwater; Best Management Practices (BMPs), and an inspection and monitoring program. Prior to the issuance of any construction-related permits, the project applicant shall submit to the Building Services Division a copy of the SWPPP and evidence of submittal of the NOI to the SWRCB. Implementation of the SWPPP shall start with the commencement of construction and continue through the completion of the project. After construction is completed, the project applicant shall submit a notice of termination to the SWRCB.

- **SCA 80: Post-construction Stormwater Management Plan**

Prior to issuance of building permit (or other construction-related permit). The applicant shall comply with the requirements of Provision C.3 of the National Pollutant Discharge Elimination System (NPDES) permit issued to the Alameda Countywide Clean Water Program. The applicant shall submit with the application for a building permit (or other construction-related permit) a completed Construction-Permit-Phase Stormwater Supplemental Form to the Building Services Division. The project drawings submitted for the building permit (or other construction-related permit) shall contain a stormwater management plan, for review and approval by the City, to manage stormwater run-off and to limit the discharge of pollutants in stormwater after construction of the project to the maximum extent practicable.

- a. The post-construction stormwater management plan shall include and identify the following:
 - i. All proposed impervious surface on the site;
 - ii. Anticipated directional flows of on-site stormwater runoff; and
 - iii. Site design measures to reduce the amount of impervious surface area and directly connected impervious surfaces; and
 - iv. Source control measures to limit the potential for stormwater pollution;
 - v. Stormwater treatment measures to remove pollutants from stormwater runoff; and
 - vi. Hydromodification management measures so that post-project stormwater runoff does not exceed the flow and duration of pre-project runoff, if required under the NPDES permit.
- b. The following additional information shall be submitted with the post-construction stormwater management plan:
 - i. Detailed hydraulic sizing calculations for each stormwater treatment measure proposed; and
 - ii. Pollutant removal information demonstrating that any proposed manufactured/mechanical (i.e., non-landscape-based) stormwater treatment measure, when not used in combination with a landscape-based treatment measure, is capable of removing the range of pollutants typically removed by landscape-based treatment measures and/or the range of pollutants expected to be generated by the project.

All proposed stormwater treatment measures shall incorporate appropriate planting materials for stormwater treatment (for landscape-based treatment measures) and shall be designed

with considerations for vector/mosquito control. Proposed planting materials for all proposed landscape-based stormwater treatment measures shall be included on the landscape and irrigation plan for the project. The applicant is not required to include on-site stormwater treatment measures in the post-construction stormwater management plan if he or she secures approval from Planning and Zoning of a proposal that demonstrates compliance with the requirements of the City's Alternative Compliance Program.

Prior to final permit inspection. The applicant shall implement the approved stormwater management plan.

- **SCA 81: Maintenance Agreement for Stormwater Treatment Measures**

Prior to final zoning inspection. For projects incorporating stormwater treatment measures, the applicant shall enter into the "Standard City of Oakland Stormwater Treatment Measures Maintenance Agreement," in accordance with Provision C.3.e of the NPDES permit, which provides, in part, for the following:

- i. The applicant accepting responsibility for the adequate installation/construction, operation, maintenance, inspection, and reporting of any on-site stormwater treatment measures being incorporated into the project until the responsibility is legally transferred to another entity; and
- ii. Legal access to the on-site stormwater treatment measures for representatives of the City, the local vector control district, and staff of the Regional Water Quality Control Board, San Francisco Region, for the purpose of verifying the implementation, operation, and maintenance of the on-site stormwater treatment measures and to take corrective action if necessary. The agreement shall be recorded at the County Recorder's Office at the applicant's expense.

- **SCA 91: Stormwater and Sewer**

Prior to completing the final design for the project's sewer service. Confirmation of the capacity of the City's surrounding stormwater and sanitary sewer system and state of repair shall be completed by a qualified civil engineer with funding from the project applicant. The project applicant shall be responsible for the necessary stormwater and sanitary sewer infrastructure improvements to accommodate the proposed project. In addition, the applicant shall be required to pay additional fees to improve sanitary sewer infrastructure if required by the Sewer and Stormwater Division. Improvements to the existing sanitary sewer collection system shall specifically include, but are not limited to, mechanisms to control or minimize increases in infiltration/inflow to offset sanitary sewer increases associated with the proposed project. To the maximum extent practicable, the applicant will be required to implement Best Management Practices to reduce the peak stormwater runoff from the project site. Additionally, the project applicant shall be responsible for payment of the required installation or hook-up fees to the affected service providers.

- **SCA 90: Structures within a Floodplain**

Prior to issuance of a demolition, grading, or building permit.

- a. The project applicant shall retain the civil engineer of record to ensure that the project's development plans and design contain finished site grades and floor elevations that are elevated above the Base Flood Elevation (BFE) if established within a 100-year flood event.

- b. The project applicant shall submit final hydrological calculations that ensure that the structure will not interfere with the flow of water or increase flooding.
- **SCA 83, Creek Protection Plan**
 - Prior to and ongoing throughout demolition, grading, and/or construction activities*
 - a. The approved creek protection plan shall be included in the project drawings submitted for a building permit (or other construction-related permit). The project applicant shall implement the creek protection plan to minimize potential impacts to the creek during and after construction of the project. The plan shall fully describe in plan and written form all erosion, sediment, stormwater, and construction management measures to be implemented on-site.
 - b. If the plan includes a stormwater system, all stormwater outfalls shall include energy dissipation that slows the velocity of the water at the point of outflow to maximize infiltration and minimize erosion. The project shall not result in a substantial increase in stormwater runoff volume or velocity to the creek or storm drains.

4.8.3 Impacts and Mitigation Measures

Significance Criteria

Development facilitated by the Proposed Amendments would have a significant impact on the environment if it would:

1. Violate any water quality standards or waste discharge requirements;
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or proposed uses for which permits have been granted);
3. Result in substantial erosion or siltation on- or off-site that would affect the quality of receiving waters;
4. Result in substantial flooding on- or off-site;
5. Create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems;
6. Create or contribute substantial runoff which would be an additional source of polluted runoff;
7. Otherwise substantially degrade water quality;
8. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, that would impede or redirect flood flows;
9. Place within a 100-year flood hazard area structures which would impede or redirect flood flows;

10. Expose people or structures to a substantial risk of loss, injury or death involving flooding;
11. Result in inundation by seiche, tsunami, or mudflow;
12. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course, or increasing the rate or amount of flow, of a creek, river or stream in a manner that would result in substantial erosion, siltation, or flooding, both on- or off-site; or
13. Fundamentally conflict with elements of the City of Oakland Creek Protection (OMC Chapter 13.16) ordinance intended to protect hydrologic resources. Although there are no specific, numeric/quantitative criteria to assess impacts, factors to be considered in determining significance include whether there is substantial degradation of water quality through (a) discharging a substantial amount of pollutants into a creek; (b) significantly modifying the natural flow of the water or capacity; (c) depositing substantial amounts of new material into a creek or causing substantial bank erosion or instability; or (d) substantially endangering public or private property or threatening public health or safety.

Approach to Analysis

Implementation of development facilitated by the Proposed Amendments would not result in direct physical impacts within the Project Area. However, extending the life of the existing Redevelopment Plan; making available funding; and allowing the use of eminent domain to acquire properties for the City of Oakland could eventually result in various types of construction activities within the Project Area that would require ground disturbance and use of hazardous materials. These types of construction activities could result in impacts to hydrology and water quality. Potential impacts to hydrology and water quality are analyzed within the context of existing plans and policies, permitting requirement, local ordinances, and the City of Oakland's Standard Conditions of Approval. Impacts that would be substantially reduced or eliminated by compliance with these policies or requirements are found to be less-than-significant. Mitigation measures are proposed for potential impacts that would not be reduced by these policies and requirements. Additional discussion of potential erosion impacts is presented in Section 4.5, *Geology, Soils and Geohazards*, of this EIR. Detailed analysis of potential impacts due to the use of hazardous materials is presented in Section 4.7, *Hazardous Materials*, of this EIR. Potential impacts to stormwater infrastructure are discussed in Section 4.14, *Utilities and Service Systems*, of this EIR.

Impacts

Stormwater, Drainages and Water Quality

Impact HYD-1: Development facilitated by the Proposed Amendments would alter drainage patterns and increase the volume of stormwater, level of contamination or siltation in stormwater flowing from the Project Area. (Less than Significant)

As discussed in Chapter 3, Project Description, a key purpose of the Proposed Amendments is to enhance the condition of the City of Oakland Central District. The City could accomplish the project objectives through various means including those that require new construction or

redevelopment of buildings and utilities. As such, implementation of development facilitated by the Proposed Amendments could potentially result in impacts to water quality from changes to stormwater flows, drainage patterns, and overall water quality. Impacts to these resources would occur if construction-related erosion or discharges of polluted waters were to reduce the quality of nearby surface waters or if an action increased the amount of impervious surface at a site resulting in increased stormwater runoff and flooding. These types of impacts would be considered potentially significant if new development or redevelopment is not designed appropriately.

The projects facilitated by the Proposed Amendments could include construction activities that employ excavation, soil stockpiling, grading, and use of hazardous chemicals, such as petroleum and oil. While unlikely, construction could also occur along the day-lighted portion of Glenn Echo-Rockridge Creek north of Grand Avenue along Harrison Street. Construction activities could result in temporary erosion; transportation of sediments; and generate chemical wastes that, if not properly managed, could flow into the storm drainage system or nearby surface water bodies. Overall, construction could cause increased sediment in stormwater runoff that could accumulate in downstream drainage facilities; interfere with existing drainage patterns; and aggravate downstream flooding conditions that may exist and potentially increase sediment in Lake Merritt and ultimately San Francisco Bay. Construction could also result in transport of hazardous chemicals downstream and into Lake Merritt and the San Francisco Bay, which are listed as impaired water bodies by the SWRCB.

Development projects facilitated by the Proposed Amendments would undergo environmental review pursuant to the California Environmental Quality Act (CEQA) as necessary and appropriate, particularly for larger development projects. As such, the potential impacts to hydrology resulting from construction and operation of these larger projects would be analyzed at a project level of detail, taking into account specific project conditions and actions. As would be required for all redevelopment projects in Oakland, any project facilitated by the Proposed Amendments would be required to comply with uniformly-applied Standard Conditions of Approval (City of Oakland, 2008), consistent with General Plan Policies, that include preparation of a Grading Plan, Erosion and Sedimentation Control Plan, and Drainage Plan. Compliance with the ACCWP NPDES Permit and implementation of the Construction Stormwater Pollution Prevention Plan (SWPPP) would require any project to incorporate Best Management Practices (BMPs) to control sedimentation, erosion, hazardous materials contamination of runoff during construction. Further, the C.3 provision of the ACCWP NPDES Permit requires that there be no net increase in stormwater runoff at a site after project construction. Thus, water quality and flooding impacts would be minimized for any construction facilitated by the Proposed Amendments.

Additionally, compliance with the City of Oakland Grading Ordinance; the Creek Protection, Stormwater Management, and Discharge Control Ordinance; and the Standard Conditions of Approval would minimize sedimentation and contamination to stormwater and surface water during construction activities. SCA 55, *Erosion and Sedimentation Control Plan*; SCA 75, *Stormwater Pollution Prevention Plan*; SCA 80, *Post-construction Stormwater Pollution Management Plan*; SCA 81, *Maintenance Agreement for Stormwater Treatment Measures*, would be applicable to the construction of redevelopment projects facilitated by the Proposed

Amendments for protecting water quality during construction and after construction. SCA 91, *Stormwater and Sewer*, would be applicable to the construction of redevelopment projects facilitated by the Proposed Amendments ensuring that stormwater infrastructure has the capacity for flows produced in the Project Area. SCA 83, *Creek Protection Plan*, would be applicable to development facilitated by the Proposed Amendments that could have impacts to creeks and other water bodies. Therefore, the implementation of these plans, and adherence to the Standard Conditions of Approval would reduce impact to a less-than-significant level.

Mitigation: None Required.

Flooding

Impact HYD-2: Development facilitated by the Proposed Amendments could be susceptible to flooding hazards as a result of being placed in a 100-year flood zone as mapped by FEMA. (Less than Significant)

The majority of the Project Area is located outside of the 100-year flood zone, as shown in Figure 4.8-1, however, a small area within the 100-year flood zone is located along the western most part of the Project Area along Lake Merritt Channel (San Antonio Slough) south of Lake Merritt, and extending to the Oakland Estuary. A small area that may be susceptible to flooding hazards in the 500-year flood zone is located north of Lake Merritt along Rockridge Creek. Although redevelopment could occur in proximity to these areas, the extents of the flood zones are very limited and not in areas where substantial new development would occur that would expose people or structures to risks of loss of property and life from flooding. To the extent such development could occur, as discussed in the General Plan Safety Element, compliance with the City of Oakland Grading Ordinance; the Creek Protection and Stormwater Management Ordinances; and the Standard Conditions of Approval would minimize flooding impacts. Additionally, SCA 90, *Structures within a Floodplain*, would be required for the construction of development facilitated by the Proposed Amendments. Therefore, the implementation of these plans, and adherence to the Standard Conditions of Approval would reduce risks of exposing people or structures to flood-related losses would reduce potential flooding impacts to a less-than-significant level.

Mitigation: None Required.

Impact HYD-3: Development facilitated by the Proposed Amendments could be susceptible to flooding hazards in the event of dam or reservoir failure. (Less than Significant)

Strong ground shaking caused by an earthquake could damage a local dam or reservoir resulting in failure and downstream flooding. Dam or reservoir failure would result in significant impacts where people experience increased risk or exposure to flood hazards as a result of development

implemented by the Proposed Amendments. The East Bay Municipal Utilities District has four reservoirs located north of the Project Area. As discussed in the setting, the northeastern portion of Project Area could experience flooding if up to two of these dams were to experience dam failure. Thus, actions from the Proposed Amendments could experience potentially significant impacts as a result of dam or reservoir failure.

As discussed in Impact HYD-1, environmental review for specific redevelopment projects will indicate mitigation measures for flooding as needed. Further, the Safety Element of the City of Oakland General Plan policy states that the City will “minimize further the relatively low risks from non-storm-related forms of flooding” by requesting from the state Division of Safety of Dams submit a timeline for the maintenance inspection of all operating dams in the city and reviewing procedures adopted by the city pursuant to the Dam Safety Act for the emergency evacuation of areas located below major water-storage facilities. DSOD requires all dam operators to comply with annual inspections and seismic standards that minimize the potential for a catastrophic failure of the dam. Continued compliance with these General Plan policies will reduce potential impacts to a less-than-significant level.

Mitigation: None Required.

Sea Level Rise

Impact HYD-4: Developments facilitated by the Proposed Amendments could be susceptible to inundation in the event of sea-level rise. (Less than Significant)

The southern border of the Project Area could be subject to risk and loss due to future sea level rise (ABAG, 2010c). As discussed above in the setting, low, medium, and high rates of potential sea level rise were identified, ranging from three inches by 2050 and 12 inches by 2100, to 16 inches by 2050 and 55 inches by 2100. Because the Project Area is flanked by a low-lying shoreline on the southern boundary, a portion of the Project Area could be subject to potentially significant risks of inundation due to future potential sea level rise if the infrastructure improvements are not implemented.

Given the potential for sea level rise, it is reasonable to anticipate that FEMA will continue to update its flood hazards mapping over time as necessary to reflect changes in sea levels. Thus, when implemented, the safety measures built into the General Plan policies in the Safety Element, SCAs related to construction within 100-year flood zones, and adaptative management measures to sea level rise would reduce these potential impacts to less-than-significant levels.

Mitigation: None Required.

Use of Groundwater

Impact HYD-5: Development facilitated by the Proposed Amendments would not adversely affect the availability of groundwater supplies or interfere substantially with groundwater recharge (Less than Significant)

The Project Area is underlain by the East Bay Plain groundwater basin. The San Francisco RWQCB has identified groundwater supplies in this basin for municipal, industrial and agricultural water supply. Impacts to the aquifer would occur if actions facilitated by the Proposed Amendments resulted in reduced recharge to the aquifer or increased extraction from the aquifer. The amount of water able to infiltrate the aquifer through pervious areas within the Project Area would not substantially decrease because the Project Area is already largely developed and covered in impervious surfaces. Additionally, compliance with the C.3 provisions of the NPDES Municipal Stormwater Permit for the ACCWP would require that recharge rates at the site of significant redevelopment projects is equivalent to the recharge rate at the site prior to the implementation of development facilitated by the Proposed Amendments. Also, potable water is supplied to the Project Area through imported surface water by the East Bay Municipal Utilities District. Therefore, the existing and potential use of groundwater for actions facilitated by the Proposed Amendments would not increase. Consequently, impacts to groundwater would be less than significant.

Mitigation: None Required.

Inundation by Seiche, Tsunami, or Mudflow

Impact HYD-6: Development facilitated by the Proposed Amendments would be susceptible to mudflow, seiche, and tsunami-related hazards. (Less than Significant)

The Project Area would not be susceptible to mudflow, which generally results from volcanic activity or catastrophic dam failure. Seiche waves would not be a risk in the Project Area because depth of water within Lake Merritt (two to three feet) would not result in significant seiche-related impacts during a seismic event.

A majority of the Project Area is located in an inland area that is not susceptible to tsunamis. However, the south and southeastern most portions of the Project Area, including areas of Jack London Square and Victory Court (see Figure 4.8-2) could be susceptible to inundation in the event of a tsunami (ABAG, 2010a). Inundation during a tsunami could result in flooding of existing structures and potential risks to human health if those structures are occupied or the inundation area is heavily populated. However, the depths of inundation would vary and not all the areas shown in Figure 4.8-2 would necessarily be inundated under a single event (ABAG, 2010a). The modeled sources of tsunamis that are most likely to affect the Bay Area include a few potential local sources but are predominantly distant events. In addition, tsunami events in the East Bay area are very rare and there is little historical record of past events that would enable the ability to evaluate the probability of such an event occurring.

Tsunami waves would naturally attenuate as they pass through the Golden Gate before reaching the east bay shoreline, where the Project Area could be affected. Therefore, while the Bay wave heights may rise, it is unlikely that the east bay shoreline would be impacted by a wave action, therefore, the tsunami risk to people and property is relatively low. Also, given the sources of tsunamis are likely at distant locations from the Bay Area, there would be time to prepare evacuation (unlike a Dam break or earthquake, for example) in order to avoid injury or loss of life (Oakland, 2004).¹ Therefore, the City and other local emergency service providers would have opportunity to provide emergency and evacuation services to the areas of potential inundation, consistent with the City's existing emergency response evacuation plans or routes, which, as discussed in Section 4.7, *Hazardous Materials*, the Proposed Amendments would not impede. Therefore, while portions of the Project Area are mapped within areas susceptible to tsunami wave runup, limited data available regarding the probability or extent of the potential tsunami hazard and supports that the likelihood of a significant event occurring in the Project Area is relatively low, and the potential impact is considered less than significant.

Mitigation: None Required.

Cumulative Impacts

Impact HYD-7: Development facilitated by the Proposed Amendments, combined with past, present, existing, approved, pending, and reasonably foreseeable future projects would not result in potentially significant cumulative impacts to hydrologic resources. (Less than Significant)

Geographic Context

The geographic context used for the cumulative assessment of water quality and hydrology impacts is the East Bay Plain of the San Francisco Bay Basin. This includes the city of Oakland and its surrounding areas.

Impacts

As discussed above, implementation of development facilitated by the Proposed Amendments would include conformance with State and local policies as well as mitigation measures that would reduce hydrology and water quality impacts to less-than-significant levels. Specifically, potential changes related to stormwater quality, stormwater flows, drainage, impervious surfaces, and flooding would be minimized via the implementation of stormwater control measures, stormwater retention measures, stormwater quality control measures, and project-specific environmental review that would integrate measures to reduce potential flooding impacts.

¹ When an earthquake that might generate a Pacific Coast Tsunami is detected, the Alaska Tsunami Warning Center and the Pacific Tsunami Warning Center calculates the danger and notifies the communities at risk. Those warnings may give people a few hours to prepare and evacuate (depending on the distance to the earthquake) (CSSC, 2011). Also note that the ballpark would be located just outside of the potential inundation area and during a game the majority of the seating would be at even higher elevations.

Potential impacts due inundation from Sea Level Rise and tsunami would be localized and would not result in cumulative effects.

Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. Cumulative projects that could combine with the less-than significant incremental impacts of development facilitated by the Proposed Amendments to compound or increase any existing hydrology- or water-quality-related cumulative impacts include, for example, potential cumulative reductions in the water quality of San Francisco Bay, or degradation of urban stormwater quality. Other projects resulting in construction occurring within or nearby the Project Area could result in similar or greater impacts to those caused by development facilitated by the Proposed Amendments. These projects include those listed in the City's Major Projects List in Appendix B to this Draft EIR, and discussed in Section 4.07.2, *Cumulative Context*, at the beginning of Chapter 4 of this Draft EIR. All projects would be subject to similar permit requirements and would be required to comply with City of Oakland ordinances and General Plan policies, as well as numerous SCAs that address the potential effects of hydrology and water quality and are discussed throughout this analysis. The potential impacts of development facilitated by the Proposed Amendments discussed previously in this section regarding hydrology and water quality would not be substantial, and would not substantially contribute to any cumulative impacts. Therefore, the Proposed Amendments impacts on hydrology and water quality are not cumulatively considerable when viewed in connection with the effects of the other past, present, and reasonably foreseeable probable future projects within the Project Area and in the vicinity of the Project Area.

Mitigation: None Required.

4.8.4 References

- Alameda County Flood Control & Water Conservation District (ACFCWCD), Flood Control Zone 12,
<http://www.acgov.org/pwa/ACFCD%20Website%20Upgrade%20Feb2008/acfcd/zone12.html>, accessed November 4, 2010.
- Association of Bay Area Governments (ABAG), Hazards Maps and Information -Tsunamis, available online at <http://quake.abag.ca.gov/tsunamis/>, accessed November 3, 2010a.
- Association of Bay Area Governments (ABAG), Hazards Maps and Information –Dam Inundation, available online at http://gis.abag.ca.gov/Website/dam_inundation/viewer.htm, accessed November 3, 2010b.
- Association of Bay Area Governments (ABAG), Hazards Maps and Information –Sea Level Rise, available online at <http://quake.abag.ca.gov/searise/>, accessed November 3, 2010c.
- California Emergency Management Agency, California Geologic Survey, University of California (CalEMA, CGS, and USC), *Tsunami Inundation Map for Emergency Planning*, July 31, 2009

California Energy Commission. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California. May 2009. CEC-500-2008-071.

California Seismic Safety Commission, *Tsunami Information*,
<http://www.seismic.ca.gov/tsunami.html>, accessed February 17, 2011.

City of Oakland, General Plan Safety Element, Adopted November 2004.

Coastal Commission, "Lake Merritt CCA" in *California's Critical Coastal Areas*, June 2006.

Department of Water Resources (DWR), Bulletin 118, 1995, Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin,
http://www.dpl2.water.ca.gov/publications/groundwater/bulletin118/basins/pdfs_desc/2-9.04.pdf, updated February 2004.

FEMA, Flood Insurance Rate Map, Alameda County and Unincorporated Areas, California Maps, Community-Panel Numbers 06001C0059G and 06001C0067G. 2009.

Intergovernmental Panel on Climate Change. Climate Change, 2007: The Physical Science Basis.

Contribution of Working Group 1 to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds). Cambridge University Press.

Oakland Museum, <http://museumca.org/creeks/1180-OMSAntonio.html>, 2010.

Lake Merritt Institute, "About Lake Merritt", available online at
http://www.lakemerrittinstitute.org/about_lake.htm, accessed on November 4, 2010.

Regional Water Quality Control Board (RWQCB), San Francisco Bay Region, San Francisco Bay Basin Water Quality Control Plan (Basin Plan),
www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml, updated January 18, 2007.

4.9 Land Use, Plans and Policies

This section describes the existing land use patterns, adopted General Plan land use classifications, and zoning designations in and around the Project Area. This section also describes the applicable plans and policies that guide development in the Project Area and evaluates the development facilitated by the Proposed Amendments' consistency with these plans and policies and other applicable land use regulations.

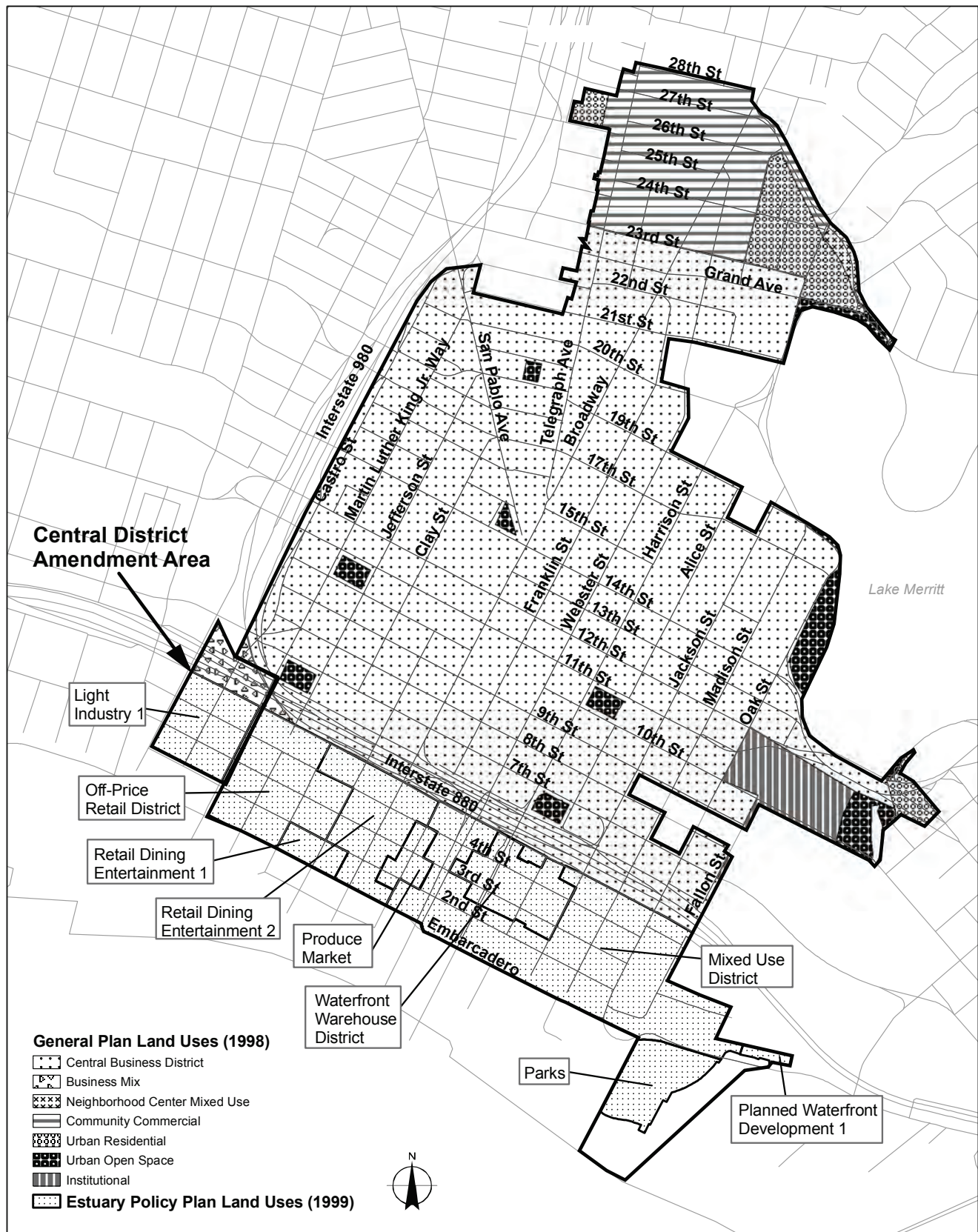
Following the discussion of the development facilitated by the Proposed Amendments' relationship to applicable plans and policies, this section identifies any potentially significant land use impacts and, if necessary, appropriate mitigation measures. Pursuant to the City of Oakland's General Plan (General Plan) (City of Oakland, 2005, as well as Section 15358(b) of the CEQA Guidelines), mitigation measures are proposed only to address physical impacts that may result from development facilitated by the Proposed Amendments.

4.9.1 Land Use Classifications and Zoning

The Project Area covers approximately 250 city blocks (828 acres) mostly in the City of Oakland's *Central Business District* (see Figure 3-1, Chapter 3, *Project Description*). According to the General Plan Land Use and Transportation Element (LUTE), the Project Area falls within seven land use classifications (see **Figure 4.9-1**). The large majority of the Project Area is within the *Central Business District* land use classification identified in the General Plan. The area north of 23rd Street falls within the *Community Commercial* and *Urban Residential* classifications and a small portion along Bay Place falls within the *Neighborhood Center Mixed Use* classification. *Institutional* and *Urban Residential* classifications overly a few parcels along the Project Area's eastern edge, south of Lake Merritt. A small area along Brush Street between 5th and 7th Streets is classified as *Business Mix* (see *City of Oakland General Plan* subheading below for a description of the intent and location of each land use classification).

The City adopted the *Estuary Policy Plan* (Estuary Plan) as an element of the General Plan to provide additional detail and guidance for development within the Oakland Estuary Plan Area. The Estuary Plan includes land use classifications and standards for the Project Area that complement those identified in the LUTE. All parcels within the Project Area south of Interstate 880 (I-880) fall within the Estuary Plan's Planning Area and underlie a more fine grained organization of land use classifications (see Figure 4.9-1). Generally moving from west to east, the Estuary Policy Planning land use designations that overly the Project Area include *Light Industrial District (LI-1)*, *Off-Price Retail District (ORD)*, *Retail Dining and Entertainment 1 (RD&E-1)*, *Retail Dining and Entertainment 2 (RD&E-2)*, *Produce Market (PM)*, *Mixed Use District (MUD)*, *Waterfront Warehouse District (WWD)*, *Parks*, and *Planned Waterfront Development 1 (PWD-1)*.

Parcels under the *Urban Open Space* classification, as identified in the LUTE, are distributed throughout the Project Area. Surrounding areas lie within the *Community Commercial*, *Urban Residential*, *Neighborhood Center*, *Business Mix*, *Institutional* and *Urban Open Space* General Plan land use classifications.



SOURCE: City of Oakland

Proposed Amendments to the Central District Urban Renewal Plan . 210505.01

Figure 4.9-1
General Plan Land Use Classifications

There are 17 zones and six special combining zones (overlay zones) within the Project Area. The majority of the land area falls within the *Central Business District* (CBD) land use designation which utilizes a zoning system with two separate sets of districts: one that regulates land uses, and another that regulates the height and bulk of buildings. The CBD zoning regulations are intended to encourage high density, mixed use, urban development along with supporting retail nodes and pedestrian-oriented streetscapes. The regulations intend to encourage a visually appealing skyline while preserving and enhancing existing neighborhood districts. The CBD includes four specific use districts and seven height districts. The four use districts, including *Central Business District Commercial* (CBD-C), *Central Business District Pedestrian Retail* (CBD-P), *Central Business District Residential* (CBD-R), and *Central Business District Mixed Commercial* (CBD-X), vary in the permitted land uses and the level(s) on which specific land uses are permitted. The seven Height/Bulk/Intensity Areas within the CBD prescribe building standards within the CBD. Portions of the Project Area fall in each of these areas. In general, maximum building base heights range from 55 feet in Area 1 to 120 feet in Area 7. Maximum tower heights range from no permitted tower in Areas 1 and 2 to having no height limit in Areas 6 and 7.

The majority of the Project Area south of I-880 is within commercial and industrial zones (C-40 Community Thoroughfare, C-45 Community Shopping, M-20 Light Industrial and M-30 General Industrial). A small portion of the Project Area, adjacent to the Interstate 980 (I-980) / I-880 interchange is zoned R-80, High-Rise Apartment Residential and CIX-1, Commercial Industrial Mix 1. North of the CBD, and north of 23rd Street, the Project Area falls within commercial and residential zones (C-30 District Thoroughfare, C-40 Community Thoroughfare, C-45 Community Shopping, C-55 Central Core, C-60 City Service, and R-90 Downtown Apartment Residential). The S-4 Design Review Combining Zone combines with some of the commercial zones in the northern and southern portions of the Project Area. The D-BR Broadway Retail Frontage Interim Combining Zone combines with the commercial and residential zones generally in the area between Broadway and Bay Place north of 23rd Street. The S-7 Preservation Zone combines with the CBD-X and CBD-R in the area between 10th Street, 14th Street, Martin Luther King Way and I-980 along the western border of the Project Area.

4.9.2 Environmental Setting

Oakland's General Plan describes the City as a series of places, neighborhoods, activity centers, transit-oriented districts and corridors. The General Plan identifies five places, known as Showcase Districts, each representing a dynamic area of regional importance targeted for continued growth. These places contain the facilities, transportation system, communication network and infrastructure to support far-reaching economic activities. The Project Area covers most of Oakland's Downtown Showcase District and the western portion of the Mixed Use Waterfront Showcase District.

The General Plan organizes the city into six general planning areas, each with distinct sets of target areas for development and improvement strategies. With the exception of a few parcels east of Brush Street, the whole of the Project Area is located within Oakland's Chinatown/Central general planning area. This planning area is part of the oldest section of the City where growth

and City annexations occurred during the latter part of the 1800s. Much of the area around downtown and near Lake Merritt was developed by the 1860s. During the 1920's the Port of Oakland began development of its port activities in Oakland's waterfront areas, including where it overlaps with the Project Area. The Chinatown/Central planning area functions as both the heart of the City and as an essential urban center for the region.

Within the Chinatown/Central planning area, the LUTE identifies eight key geographic areas targeted for community and economic expansion. Seven of these target areas overly the Project Area. Auto Row, the long-time home of many of the city's auto dealers, falls along Broadway from the northern border of the Project Area to just north of Grand Avenue. The Upper Broadway and Telegraph Avenue target area, bound roughly by 14th Street, Grand Avenue, San Pablo Avenue and just east of Broadway, has been the focus of efforts to create retail and entertainment areas in and around the Fox Theater and at the 20th Street and Broadway intersection. City Center, which surrounds the 12th Street Bay Area Rapid Transit (BART) Station, is envisioned for high intensity infill hotel and office development with a focus on the 12th Street and Broadway intersection. A variety of projects in Old Oakland, generally located between 9th, 6th, Broadway, and Martin Luther King Way, are intended to attract new residents and mixed use development. Chinatown, east of Old Oakland to Harrison Street, is targeted for development along 7th and 8th streets to create a stronger link to the City Center area. Jack London Square is highlighted in the General Plan LUTE and in the related Estuary Planning Policy as a target area to receive support for new development as well as streetscape and transportation improvements (see *Local Plans and Policies* below). In addition, the Gold Coast area, located roughly between 12th, Oak, 14th, and Jackson streets, is targeted for infill development to maintain and enhance the existing neighborhood character.

The Project Area also includes extensions of the Telegraph Avenue and Broadway corridors and a small portion of the Grand Avenue corridor; corridors that serve as the link for travel between different areas of the City and that are highlighted for revitalization and mixed-use development. Three Transit-Oriented Districts, 12th Street, 19th Street and Lake Merritt BART stations, fall within the Project Area. These small districts are designed to take advantage of opportunities for compact mixed-use development around BART stations.

Surrounding Existing Land Uses

Several transportation corridors connect the Project Area to surrounding areas and the region. Major east-west corridors include I-880 which transects the southern portion of the Project Area, I-580, which is located approximately one half mile north of the northern boundary, Grand Avenue, and the Embarcadero. Major north-south corridors include I-980, which forms the majority of the development facilitated by the Proposed Amendment's western boundary, San Pablo Avenue, Telegraph Avenue, and Broadway. In addition, the Project Area is at the center of the BART system, with three stations (12th Street Oakland City Center, 19th Street and Lake Merritt) located within its boundaries. More than 40 AC Transit bus lines connect the Project Area with other parts of Oakland and nearby communities.

The Project Area is clearly defined on three sides by a change in land uses. To the east, Lake Merritt creates a natural boundary. Further south, the areas surrounding Lake Merritt Channel and Laney Community College Campus are characterized by low-rise and low-density urban form. To the south, the Project Area is bound by the Embarcadero and Amtrak railroad tracks with the waters of the Oakland Estuary and the island of Alameda beyond. The majority of the Project Area is separated from residential areas to the west by the I-980 freeway. The northern boundary is less distinct in terms of land uses as the Project Area extends northward of the CBD into residential and commercial neighborhoods.

Project Area Existing Land Uses

Existing land use patterns across the Project Area and surrounding areas generally follow the pattern of General Plan land use designations. Thus, Figure 4.9-1 and the accompanying land use classification descriptions, serve as a rough guide to existing land use patterns on the ground.

The Project Area encompasses approximately 5,769 parcels on 250 city blocks. As shown in **Table 4.9-1** below, approximately 3,966 of these parcels (69 percent) are residential and 1,262 of these parcels (22 percent) are commercial. The Project Area includes only 137 industrial parcels (two percent) although lots devoted to industrial uses are typically much larger than residential and commercial parcels. The entirety of the land within the Project Area, including all parks and open spaces, is considered urbanized. According to the Alameda County Assessors' data, the Project Area includes approximately 121 vacant lots, which is approximately two percent of the parcels in the Project Area (HdL, Coren & Cone, 2010).

**TABLE 4.9-1
PROJECT AREA NET LAND USES**

Land Use Category	Parcels
Residential	3,966
Commercial	1,262
Industrial	137
Institutional	34
Recreational	50
Vacant	121
Exempt	199
TOTAL	5,769

SOURCE: HdL, Coren & Cone, 2010.

Many of the revitalization programs that would be facilitated by the Proposed Amendments; such as the public art program, façade improvements, public park improvements, infrastructure improvements, and site acquisitions; would occur in select areas throughout the Project Area. However, the Redevelopment Plan has been subdivided to include five Activity Areas in which the City Council has authorized the carrying out of specific redevelopment actions. The predominant existing land uses in these Activity Areas is described below.

- *Uptown*: Office and retail uses dominate land uses around San Pablo Avenue, Telegraph Avenue, Broadway and Grand Avenue within this area. Recent urban residential development, institutional uses and vacant lots are also present along these transportation corridors. Car oriented services occupy portions of Grand Avenue. Notable land uses within this area include the Fox Theater and the Paramount Theater. Building ages, heights, and states of disrepair vary widely within this area. This area generally corresponds with the Upper Broadway and Telegraph target area described above and in the General Plan.
- *City Center*: This area extends between 11th Street, Castro Street, 14th Street and Broadway. Tenth Street is interrupted, and does not bisect these blocks. High-rise office and hotel buildings dominate the landscape in this area although garages and vacant lots (often used for surface parking) are dispersed throughout. Castro Street, on the west border, is lined with I-980 on the west and older residential buildings on the east. This area generally corresponds with, although extends further west than, the City Center target area described above and in the General Plan.
- *Chinatown*: This activity area covers two large blocks between 11th Street, Webster Street, 9th Street, and Broadway. Mid- and high-rise commercial and mixed use buildings characterize this area.
- *Victorian Row/Old Oakland*: This area is adjacent to the Chinatown activity area and is bound by 10th Street, Broadway, 8th Street, and a jagged line following Washington Street. This is within the General Plan Old Oakland target area and is characterized by two- and three-story buildings, many designated historic resources, supporting a mix of office, retail and related commercial uses. This area is within the Victorian Row historic district (see Chapter 4.4, *Cultural Resources*).

For the purposes of analysis, specific projects have been identified as potential projects facilitated by the Proposed Amendments (see Table 3.1 in Chapter 3, *Project Description*). Existing land uses in the vicinity of these potential projects is described below.

- *Broadway-Valdez Triangle*: The Proposed Amendments could facilitate implementation of the Broadway-Valdez Triangle Specific Plan. This area encompasses parcels on both sides of Broadway between Grand Avenue and 27th Street. This area corresponds to the southern portion of Auto Row, one of the economic target areas identified in the LUTE. Although a few mid-rise commercial buildings occupy lots in the southern portion of this area, the dominant existing land use in this area is single-story auto-oriented retail including auto-service providers, car dealerships and associated surface lots. The First Presbyterian Church occupies a large gothic building set back on the southeast corner of 27th Street and Broadway.
- *Victory Court Ballpark and Associated Development*: The Proposed Amendments could facilitate implementation of a plan to develop a 39,000-seat ballpark and associated retail, office and residential development on the one-block-long Victory Court. This site is located in the southeastern-most portion of the Project Area and falls within the Estuary Planning Policy's Mixed Use District (see *Local Plans and Policies* subheading below). Land use in this area is predominantly industrial. The buildings are single-story warehouses supporting restaurant supply retail, self-storage units, moving truck storage, and other light-industrial uses.

- 188 11th Street: Land uses in the near vicinity of this proposed residential project include mid-rise commercial and government buildings, vacant lots and some residential uses facing Madison Street.
- 6th/7th/Harrison: Existing land uses on this block vary widely and include low- and mid-rise commercial and mixed use buildings, warehouse and industrial structures, and detached single-family homes. These structures are separated by vacant lots. Harrison Square Park occupies the block across Harrison Street to the east.
- 1800 San Pablo (“Uptown Parcel 5”): This project would be developed within the Redevelopment Plan’s Uptown activity area described above. The site, on the eastern side of San Pablo between 18th and 19th streets, is currently vacant. Adjacent land uses include single-story retail, two-story commercial, new four- and five-story residential, and an indoor ice rink.

Local Plans and Policies

Presented below are applicable plans and regulations that pertain to the development facilitated by the Proposed Amendments, followed by a discussion of the overall consistency (or inconsistency) with each plan.

City of Oakland General Plan

The General Plan establishes comprehensive, long-term land use policies for the City and provides the primary policy direction for development in the City and within the Project Area. The General Plan comprises a series of elements, each of which deals with a particular topic, which apply citywide. Consistent with state law, the General Plan includes the *Land Use and Transportation Element*; the *Historic Preservation Element*; the *Open Space, Conservation, and Recreation Element*; the *Safety Element*; the *Housing Element*; the *Noise Element*; and the *Scenic Highways Element*. The *Estuary Policy Plan*, *Bicycle Master Plan*, and *Pedestrian Master Plan* have also been adopted into, and are now a part of, the General Plan.

Conflicts with a General Plan do not inherently result in a significant effect on the environment within the context of CEQA. As stated in Section 15358(b) of the CEQA Guidelines, “[e]ffects analyzed under CEQA must be related to a physical change.” Section 15125(d) of the Guidelines states that EIRs shall discuss any inconsistencies between the development facilitated by the Proposed Amendments and applicable General Plans in the Setting section of the document (not under Impacts).

Further, Appendix G of the CEQA Guidelines (Environmental Checklist Form) makes explicit the focus on *environmental* policies and plans, asking if the project would “conflict with any applicable land use plan, policy, or regulation . . . adopted for the purpose of avoiding or mitigating an environmental effect” (emphasis added). Even a response in the affirmative, however, does not necessarily indicate the project would have a significant effect, unless a physical change would occur. To the extent that physical impacts may result from such conflicts, such physical impacts are analyzed elsewhere in this EIR. The compatibility of the development facilitated by the Proposed Amendments with General Plan policies that do not relate to physical

environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the Proposed Amendments.

Land Use and Transportation Element (LUTE)

The City adopted the LUTE on March 24, 1998. The LUTE identifies policies for utilizing Oakland's land as change takes place and sets forth an action program to implement the land use policy through development controls and other strategies. As noted above, the LUTE shows the Project Area primarily within the *Central Business District* classification (see Figure 4.9-1). The intent and desired character of the CBD and other land use classifications and their locations within the Project Area are described below.

- *Central Business District*: The intent of the *Central Business District* is “to encourage, support and enhance the downtown area as a high density, mixed use urban center of regional importance and a primary hub for business, communications, office, government, high technology, retail, entertainment, and transportation...” The desired character and uses include “...a mix of large-scale offices, commercial, urban (high-rise) residential, institutional, open space, cultural, educational, arts, entertainment, service, community facilities, and visitor uses.” The maximum floor-area ratio (FAR)¹ is 20.0, and the maximum allowable residential density is 300 units per gross acre. Different FARs may be encouraged for different areas. For example, for the Broadway spine, the highest FAR may be encouraged, and for areas close to Lake Merritt and Old Oakland, lower FARs may be appropriate.
- *Community Commercial*: The intent of the *Community Commercial District* is to “identify, create, maintain and enhance areas suitable for a wide variety of commercial and institutional operations along the City's major corridors and in shopping districts or centers.” Areas north of 23rd Street fall within this district.
- *Urban Residential*: The intent of the *Urban Residential District* is to “create, maintain and enhance areas of the City that are appropriate for multi-unit, mid-rise or high-rise residential structures in locations with good access to transportation and other services.” Areas north of 23rd Street and east of Valdez Street fall within this district. An additional small portion of the Project Area west of Telegraph Avenue between Sycamore and 27th Streets is also within this district.
- *Neighborhood Center Mixed*: The intent of the *Neighborhood Center Mixed Use District* is to “identify, create, maintain and enhance mixed use neighborhood commercial centers. The primary focus for this district is on smaller scale pedestrian-oriented centers with continuous street frontages and a mix of uses.” A small portion of the Project Area along Bay place falls within this district.
- *Business Mix*: The intent of the *Business Mix District* is to “create, preserve and enhance areas of the City that are appropriate for a wide variety of business and related commercial and industrial establishments.” A small area along Brush Street between 5th and 7th Streets is classified as *Business Mix*.

¹ Floor-area ratio (FAR) is gross floor area of a building divided by total site area, excluding parking.

- Urban Open Space: The intent of the *Urban Open Space District* is to “identify, enhance and maintain land for parks and open space.” *Urban Open Space District* parcels are distributed throughout the Project Area.

All parcels within the Project Area south of I-880 fall within the Estuary Policy Planning Area and are discussed below.

Estuary Policy Plan

The Estuary Policy Plan, which was jointly prepared by the City and the Port of Oakland, is an area plan that has been incorporated into the General Plan. This Plan presents policy recommendations related to land use, development, urban design, shoreline access, public spaces, regional circulation, and local street improvements for the Estuary Planning Area. The Estuary Planning Area is divided into three general planning districts: Jack London District, Oak to Ninth Street District, and San Antonio/Fruitvale District. Parcels within the Estuary Policy Planning Area underlie a more fine grained organization of land use classifications (see Figure 4.9-1).

The southern waterfront portion of the Project Area, bound by I-880 to the north and the eastern, southern, and western Project Area boundaries, falls within the Estuary Planning Area. These parcels fall primarily within the Jack London District and partially, on the eastern edge, within the Oak to Ninth Street District. The intent and desired character of the relevant Estuary Policy Plan land use classifications and their locations within the Project Area are described below.

- **Estuary Planning Area Jack London Square District**

Light Industrial District (LI-1): The intent of this classification is to maintain the light industrial activities, including warehousing and distribution uses that currently exist west of Martin Luther King Boulevard, while also permitting compatible office development.

Off-Price Retail District (ORD): The intent of this classification is to encourage rehabilitation and infill development of off-price retail uses, limit the intensity of new development, and maintain the industrial character of the classification. Within the Project Area, this classification is bound by Martin Luther King Way to the west and Clay and Washington Streets to the east.

Retail Dining and Entertainment 1 (Phase 1 Jack London Waterfront) (RD&E-1): The intent of this classification is to intensify pedestrian-oriented retail, dining and entertainment uses. The intent is also to create a major activity anchor within Jack London Square but west of the Project Area. This classification falls south of Embarcadero with only a small portion, between Clay Street, 2nd Street and midway between Washington Street and Broadway, overlapping the Project Area.

Retail Dining and Entertainment 2 (Lower Broadway District) (RD&E-2): The intent of this classification is to encourage redevelopment as entertainment and dining destination and enhance portions of this district as a gateway to Jack London Square. This classification covers blocks east and west of the extension of Broadway that falls within Jack London Square.

Produce Market (PM): The intent of the *Produce Market* classification is to “preserve and rehabilitate existing buildings and awnings for food-oriented retail, galleries, small office

and live-work uses.” This classification overlies parcels surrounding the intersections of 2nd and 3rd Streets with Franklin Street.

Mixed Use District (MUD): The intent of this classification is to encourage development on non-traditional and higher density housing within a context of commercial and light industrial/manufacturing uses. This classification extends from Franklin Street to Oak Street and surrounds the *Waterfront Warehouse District*.

Waterfront Warehouse District (WWD): The intent of this classification is to preserve and adaptively reuse existing buildings with joint living and commercial (light industrial, warehousing wholesaling and office) uses. This classification covers the blocks between Harrison, Jackson, 3rd and 4th Streets as well as several surrounding parcels.

- **Estuary Planning Area Oak to Ninth District**

Planned Waterfront Development (PWD-1): The intent of this classification is to transform the existing industrial uses into a public-oriented zone that provides public access and takes advantage of open space opportunities. Only a small portion of the Project Area, surrounding Embarcadero east of Aquatic Center, falls within this classification.

Parks: Policies within the Estuary Plan (policies OAK-2 and OAK-2.1) encourage preservation and expansion of waterfront access and usable open space in the area surrounding Estuary Park and the mouth of Lake Merritt Channel.

Project Consistency with the General Plan

Originally adopted in 1969, the Redevelopment Plan was amended in July 2001 to be consistent with the General Plan in accordance with state law (California Health and Safety Code Section 33346). The Redevelopment Plan includes a broad list of potential programs and projects intended to reduce blight, and a funding mechanism via tax increment financing. These programs and projects—which are intended to enhance the Project Area’s function, appearance, and economic vitality in ways that would not otherwise be available—are guided by the General Plan and applicable zoning regulations.

The Proposed Amendments would govern the Redevelopment Agency’s actions and set forth parameters on the Agency’s authority to conduct activities within the Project Area. Specifically, the Proposed Amendments would extend the duration of the Redevelopment Plan, increase the cap on the receipt of tax increment revenue, and renew the authority for use of eminent domain in the Project Area. These amendments would extend the life and effectiveness of the Redevelopment Plan but would not alter the development objectives, techniques, methods of financing or general provisions of the plan.

The development facilitated by the Proposed Amendments would be consistent with the General Plan policies, including those included in the LUTE and the Estuary Planning Policy, because all potential redevelopment projects facilitated by the Proposed Amendments would conform to the General Plan’s policy directions regarding development and redevelopment within the Project Area. The intent of specific redevelopment projects and future development activity within the Project Area will be to implement the General Plan according to its policies, land use designations and zoning classifications. Furthermore, the Redevelopment Plan explicitly includes controls on its

actions stating, “Nothing in this Plan shall be interpreted to exclude or release in the Project Area at any time from the operation of said City codes that are presently in force or may be enacted by the Oakland City Council” (Central District Urban Renewal Plan Section 403).

Bicycle Master Plan and Pedestrian Master Plan

In December 2007, the City Council adopted the Oakland Bicycle Master Plan (BMP) and in November 2002, the City Council adopted the Pedestrian Master Plan as part of the LUTE. The City of Oakland Bicycle Master Plan (December 2007) calls for the implementation of the bikeway network improvements including Bike Lanes and Arterial Bike Routes throughout the Project Area.

The Pedestrian Master Plan identifies policies and implementation measures for achieving LUTE policies that promote a walkable city. The Plan designates a Pedestrian Route Network throughout Oakland with a concentration of high priority projects (including “City Routes” and “Neighborhood Routes”) within the Project Area.

Project Consistency with the Bicycle Master Plan and Pedestrian Master Plan

The development facilitated by the Proposed Amendments would not conflict with the Bicycle Master Plan or Pedestrian Master Plan because all potential redevelopment projects facilitated by the Proposed Amendments would comply with City of Oakland’s Standard Conditions of Approval that ensures the submittal, approval and implementation of plans to the City to implement bicycle storage and parking facilities to accommodate the bicycle parking spaces required for the potential redevelopment projects. Compliance with the Standard Conditions of Approval would also ensure pedestrian safety, as discussed in detail in Section 4.13, *Transportation and Circulation*.

Oakland Zoning Code

The Planning Code serves to implement General Plan policies through the City’s Zoning Code which is found in the Oakland Municipal Code, Title 17. The Zoning Code governs land uses and development standards, such as building height, bulk and setback, for specific zoning districts within Oakland. Permits to construct new buildings or to alter or demolish existing ones may not be issued unless the project proposed conforms to the Zoning Code or an exception is granted pursuant to provisions of the Planning Code. The use zoning districts existing in the Project Area are described above in the *Land Use Classification and Zoning* section.

Project Consistency with Oakland Zoning

As described above under the City of Oakland General Plan discussion, the Proposed Amendments would extend the duration of the Redevelopment Plan and facilitate funding and authority to implement the Redevelopment Plan. The Proposed Amendments would not alter the development objectives of the Redevelopment Plan. Inasmuch as these development objectives are guided by the General Plan and applicable zoning regulations, the development facilitated by the Proposed Amendments would not conflict with the Oakland Zoning Code.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

There are no City of Oakland SCAs specific to land use.

Other Applicable Plans and Policies

In addition to the City of Oakland's adopted plans, policies, and regulations discussed above, parts of the Project Area and surrounding vicinity are also guided by the *San Francisco Bay Plan*, the *San Francisco Bay Area Seaport Plan*, and the California State Lands Commission under the Public Trust Doctrine.

San Francisco Bay Plan and San Francisco Bay Area Seaport Plan

Portions of the Project Area lie within a 100-foot "shoreline band"² that surrounds San Francisco Bay and that is under the jurisdiction of the San Francisco Bay Conservation and Development Commission (BCDC), a state agency. BCDC ensures that development within the shoreline band is consistent with the *San Francisco Bay Plan* (Bay Plan) and the *San Francisco Bay Area Seaport Plan* (Seaport Plan). The McAteer-Petris Act, established by BCDC, and the Bay Plan are an exercise of authority by the state legislature over public trust lands and establish policies for meeting public trust needs (see California State Lands Commission, Public Trust Doctrine, below).

The Seaport Plan is incorporated into the Bay Plan and is the basis of port policies that promote goals for areas determined to be necessary for future port development. The Seaport Plan applies to "port priority use" areas in Oakland, which include the Inner Harbor to Clay Street, which is adjacent to and west of the Project Area boundary.

The Bay Plan contains policies that guide future uses of the bay and shoreline and encourage new shoreline development to provide public access to the bay, to the maximum extent feasible. It incorporates a series of Bay Plan Maps of specific areas along the shoreline, and these maps are based on, and show how to apply, the Bay Plan policies. The Project Area is within Bay Plan Map Five (Central Estuary), which designates a portion of the Project Area west of Lake Merritt Channel as a Waterfront Park Priority Use Area.

Project Consistency with Bay Plan Policies

The development facilitated by the Proposed Amendments would not conflict with the Bay Plan policies because all potential redevelopment projects facilitated by the Proposed Amendments and proposed for development within the Waterfront Park Priority Use Area would be subject to BCDC's Design Review Board to ensure compatibility with policies for public access, appearance, design, and scenic views.

² The "shoreline band" consists of all territory located between the shoreline of the Bay and a line 100 feet landward of and parallel with that line.... This area generally includes tidelands, which are lands lying between mean high tide and mean low tide, and marshlands lying between mean high tide and five feet above mean sea level (BCDC, 2003).

California State Lands Commission, Public Trust Doctrine, Port of Oakland

The City of Oakland maintains land use jurisdiction of the majority of the Project Area. Certain areas of the Project Area along the waterfront are currently designated “public trust lands” pursuant to the Tidelands Trust Doctrine of the State of California, and are therefore managed “in trust” by the Port of Oakland (Port) under the authority granted by the California State Lands Commission. Within the Project Area, the Port currently has jurisdiction over parcels south of 2nd Street between Webster Street and west of Clay Street (midblock between Clay and Jefferson Streets). The Port’s jurisdiction also extends along and south of Embarcadero and includes the land area around Estuary Park and Aquatic Center.

The Port is an agency of the City government given the responsibility by the Oakland City Charter (Section 706(3)) to own, develop and manage lands within a specified Port jurisdiction, including lands subject to the Public Trust Doctrine. The Port has the authority to plan, review and approve development projects and undertake associated environmental review and certification processes (City of Oakland, 1999). Although development on lands under Port jurisdiction is not subject to the City of Oakland zoning or development regulations, such projects would be reviewed by Oakland City Planning for consistency with the General Plan. Further, the Estuary Plan was jointly prepared by the City and the Port to provide land use policy direction for lands within the Estuary Planning Area. Because all Project Area lands within the jurisdiction of the Port are also within the Estuary Planning Area, and because the Estuary Plan is an incorporated element of the General Plan, all Project Area lands are subject to the policy guidance of the General Plan.

4.9.3 Impacts and Mitigation Measures

Significance Criteria

Development facilitated by the Proposed Amendments would have a significant impact on the environment if it would:

1. Physically divide an established community;
2. Fundamentally conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect and result in a physical change in the environment; or
3. Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan

Approach to Analysis

This EIR analysis evaluates the development facilitated by the Proposed Amendments’ general consistency with applicable plans and policies in order to determine the potential for significant environmental impacts. As discussed in the Setting section of this chapter, the General Plan has determined that “the fact that a specific project does not meet all General Plan goals, policies, and

objectives does not inherently result in a significant effect on the environment within the context of [CEQA]" (City of Oakland, 2005). In addition, the development facilitated by the Proposed Amendments was evaluated in terms of its compatibility with nearby existing land uses.

Impacts

Land Use Compatibility / Physical Division of an Established Community

Impact LU-1: Development facilitated by the Proposed Amendments would not result in the physical division of an existing community or conflict with nearby land uses. (Less than Significant)

The development facilitated by the Proposed Amendments would govern the Redevelopment Agency's actions and set forth parameters on the Agency's authority to conduct activities within the Project Area. Specifically, the proposed amendments to the Redevelopment Plan would extend the duration of the plan, increase the cap on the receipt of tax increment revenue, and renew the authority for use of eminent domain in the Project Area. These amendments would extend the life and effectiveness of the Redevelopment Plan but would not alter the development objectives, techniques, methods of financing or general provisions of the plan.

As noted above, all potential redevelopment projects facilitated by the Proposed Amendments would conform to the General Plan's policy directions regarding development and redevelopment within the Project Area. As such, future development under the amended Redevelopment Plan would adhere to the permitted land uses and development standards in each of the General Plan land use designations, including those in the Estuary Plan. Inasmuch as these land use classifications mirror existing land use patterns across the Project Area, development facilitated by the Proposed Amendments would be consistent with existing uses and would represent a strengthening and revitalization of existing communities rather than a perceived or physical division.

In addition, the General Plan contains substantial policy requirements pertaining to compatibility of land uses that must be implemented throughout all of the City's neighborhoods, including those within the Project Area. Conformance to the General Plan, including LUTE policies listed below, would prohibit development of incompatible land uses or land uses that would result in a division within an established community.

- ***Policy N1.8:*** The height and bulk of commercial development in Neighborhood Mixed Use Center and Community Commercial areas should be compatible with that which is allowed for residential development.
- ***Policy N2.1:*** As institutional uses are among the most visible activities in the City and can be sources of community pride, high quality design and upkeep should be encouraged. The facilities should be designed and operated in a manner that is sensitive to surrounding residential and other uses.
- ***Policy N5.2:*** Residential areas should be buffered and reinforced from conflicting uses through the establishment of performance-based regulations, the removal of non-conforming uses and other tools.

- *Policy N7.1:* New residential development in detached Unit and Mixed Housing Type areas should be compatible with the density, scale, design and existing or desired character of surrounding development.
- *Policy N7.2:* Infrastructure availability, environmental constraints and natural features, emergency response and evacuation times, street width and function, prevailing lot size, prominent development type and height, scenic values, distance from public transit and desired neighborhood character are among the factors that should be taken into consideration when developing and mapping zoning designations or determining compatibility. These factors should be balanced with the citywide need for housing.
- *Policy N8.2:* The height of development in urban residential and the higher density residential areas should step down as it nears lower density residential areas to minimize conflicts at the interface between the different types of development.

Further, development facilitated by the Proposed Amendments would undergo subsequent project-specific environmental review as needed and appropriate, including project-level analysis of land use compatibility. There is not sufficient information currently available to analyze the project-level impact; however, based on the information currently available, implementation of General Plan Policies, including but not limited to those described above, mean that no significant land use impacts related to land use incompatibility or the physical division of an established community would occur as a result of the development facilitated by the Proposed Amendments.

Mitigation: None Required.

Policy Consistency / Change in Environment

Impact LU-2: Development facilitated by the Proposed Amendments would not conflict with applicable land use plans and policies adopted for the purpose of avoiding or mitigating an environmental effect. (Less than Significant)

Conflicts between a project and applicable policies do not constitute significant physical environmental impacts in and of themselves. A policy inconsistency is considered a significant adverse environmental impact only when it is related to a policy adopted for the purpose of avoiding or mitigating an environmental effect and it is anticipated that the inconsistency would result in a significant adverse physical impact based on the established significance criteria.

The intent of development facilitated by the Proposed Amendment is to implement the General Plan according to its policies, land use designations and zoning classifications. Because the development facilitated by the Proposed Amendments would not alter the development objectives, techniques, methods of financing or general provisions of the Redevelopment Plan, and because the Redevelopment Plan was amended in July 2001 to be consistent with the General Plan in accordance with state law (California Health and Safety Code Section 33346), development facilitated by the Proposed Amendments would not result in a conflict with General Plan policies, including those adopted for the purpose of avoiding or mitigating an environmental effect.

As discussed in the Setting section above, development facilitated by the Proposed Amendments would not result in conflicts to the *San Francisco Bay Plan*, the *San Francisco Bay Area Seaport Plan*, or the Public Trust Doctrine. Development facilitated by the Proposed Amendments would not conflict with any applicable land use policies adopted for the purpose of avoiding or mitigating an environmental effect. As a result, no significant land use impacts related to the development facilitated by the Proposed Amendments' consistency with land use policies would occur.

Mitigation: None Required.

Habitat and Natural Community Conservation Plans

Impact LU-3: Development facilitated by the Proposed Amendments would not fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan. (Less than Significant)

The Project Area is not located within or in proximity to an area guided by a Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, development facilitated by the Proposed Amendments would not conflict with such plans.

Mitigation: None Required.

Cumulative Impacts

Impact LU-4: Development facilitated by the Proposed Amendments, combined with cumulative development in the defined geographic area, including past, present, existing, approved, pending, and reasonably foreseeable future development, does not reveal any significant adverse cumulative impacts in the area. (Less than Significant)

Geographic Context

The cumulative geographic context for land use, plans and policy considerations for the development facilitated by the Proposed Amendments consists of the Project Area in addition to all areas of the city since cumulative effects must be considered to policies or regulations that apply citywide.

Impacts

As analyzed throughout this section, development facilitated by the Proposed Amendments would not result in a significant land use impact by potentially physically dividing an established community; conflicting with adjacent or nearby land uses; or conflicting with applicable land use plans, policies or regulations adopted for the purpose of avoiding or mitigating an environmental effect. Development facilitated by the Proposed Amendments is not located in or near an area guided by a habitat conservation plan or natural community conservation plan. Thus, development

facilitated by the Proposed Amendments would not combine with, or add to, any potential adverse land use impacts that may be associated with other cumulative development. Similarly, because development facilitated by the Proposed Amendments would not result in a conflict with a land use plan, policy or regulation in manner that could result in a significant environmental effect, whether other present or future development would have such a conflict, the effect would not combine to create cumulative “conflict.”

In addition, past projects have, and present and reasonably foreseeable future projects would be, subject to development guidance contained within the General Plan and other applicable land use plans to ensure land use compatibility. These projects include those in the Major Projects List in Appendix B to this Draft EIR, and discussed in Section 4.07.2, *Cumulative Context*, in the front of Chapter 4 of this Draft EIR. Based on the information in this land use section and for the reasons summarized above, development facilitated by the Proposed Amendments would not contribute to any significant adverse cumulative land use impacts when considered together with past, present, pending and reasonably foreseeable development.

Mitigation: None Required.

4.9.4 References

City of Oakland, Oakland General Plan, *Estuary Policy Plan*, June 8, 1999.

City of Oakland, Oakland City Council Resolution No. 79312 C.M.S., Resolution Amending the Oakland General Plan by...(2) Adopting Language to Clarify that the General Plan Contains Competing Policies..., adopted June 21, 2005.

City of Oakland, *Land Use and Transportation Element of the Oakland General Plan*, March 24, 1998, amended to June 21, 2005a.

City of Oakland, *Bicycle Master Plan. Part of the Land Use and Transportation Element of the Oakland General Plan*, adopted December 2007.

City of Oakland, *City of Oakland Planning Code*. CEDA: Planning and Zoning.
<http://www.oaklandnet.com/government/ceda/revised/OaklandPlanningCode2010-04-15withbookmarks.pdf>, accessed November 12, 2010.

HdL, Coren & Cone, *2010-2011 Property Data, The City of Oakland, Preliminary Property Tax Reports*, “The City of Oakland Central RP & Annexes 2010/2011 Use Category Summary,” October 11, 2010.

San Francisco Bay Conservation and Development Commission (BCDC), *San Francisco Bay Plan*, <http://www.bcdc.ca.gov/library/bayplan/bayplan.htm>, 1968 as amended through June 2003.

4.10 Noise

This section analyzes potential impacts on the ambient noise environment caused by construction and implementation of development facilitated by the Proposed Amendments. It also analyzes the compatibility of noise-sensitive uses developed, such as residences and public open spaces with the existing noise environment. This section describes the environmental and regulatory setting of the Project Area as well as basics of environmental acoustics, including definitions of terms commonly used in noise analysis. Potential impacts are discussed and evaluated, and appropriate SCAs and/or mitigation measures are identified, as necessary.

4.10.1 Environmental Setting

Technical Background

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the “loudness” of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear’s decreased sensitivity to low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of decibels (dBA).¹ Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements.

Some representative noise sources and their corresponding A-weighted noise levels are shown in **Table 4.10-1**.

Noise Exposure and Community Noise

An individual’s noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. The noise levels presented in Table 4.10-1 represent noise measured at a given instant in time; however, noise levels rarely persist consistently over a long period of time. Rather, community noise varies

¹ All noise levels reported herein reflect A-weighted decibels unless otherwise stated.

**TABLE 4.10-1
TYPICAL NOISE LEVELS**

Noise Level (dBA)	Outdoor Activity	Indoor Activity
90+	Gas lawn mower at 3 feet, jet flyover at 1,000 feet	Rock Band
80-90	Diesel truck at 50 feet	Loud television at 3 feet
70-80	Gas lawn mower at 100 feet, noisy urban area	Garbage disposal at 3 feet, vacuum cleaner at 10 feet
60-70	Commercial area	Normal speech at 3 feet
40-60	Quiet urban daytime, traffic at 300 feet	Large business office, dishwasher next room
20-40	Quiet rural, suburban nighttime	Concert hall (background), library, bedroom at night
10-20		Broadcast / recording studio
0	Lowest threshold of human hearing	Lowest threshold of human hearing

SOURCE: Modified from Caltrans, 1998a

continuously over time because of the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and wind. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment varies the community noise level from instant to instant requiring the measurement of noise exposure over a period of time to accurately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

Leq: The equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The L_{eq} is the constant sound level, which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

Lmax: The instantaneous maximum noise level for a specified period of time.

L50: The noise level that is equaled or exceeded 50 percent of the specified time. This is the median noise level during the specified time.

L90: The noise level that is equaled or exceeded 90 percent of the specified time. The L90 is often considered the background noise level averaged over the specified time.

DNL: The Day/Night Average Sound Level is the 24-hour day and night A-weighted noise exposure level, which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night. Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance from nighttime noise. (Also referred to as “Ldn.”)

CNEL: Similar to the DNL, the Community Noise Equivalent Level (CNEL) adds a 5-dBA “penalty” for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

Effects of Noise on People

The effects of noise on people can be placed into three categories:

- Subjective effects of annoyance, nuisance, dissatisfaction;
- Interference with activities such as speech, sleep, learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants generally experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual’s past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so called “ambient noise” level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Under controlled conditions in an acoustics laboratory, the trained healthy human ear is able to discern changes in sound levels of 1 dBA;
- Outside these controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise;
- It is widely accepted that the average healthy ear, however, can barely perceive changes in the noise level of 3 dBA;
- A change in level of 5 dBA is a readily perceptible increase in noise level; and
- A 10 dBA change is recognized as twice as loud as the original source (Caltrans, 1998b).

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of 6 to 7.5 dBA per doubling of distance from the source, depending on the topography of the area and environmental conditions (i.e., atmospheric conditions and noise barriers, either vegetative or manufactured, etc.). Widely distributed noise, such as a large industrial facility spread over many acres or a street with moving vehicles (known as a “line” source), would typically attenuate at a lower rate, approximately 3 to 4.5 dBA each time the distance doubles from the source, which also depends on environmental conditions (Caltrans, 1998b). Noise from large construction sites will exhibit characteristics of both “point” and “line” sources, and attenuation will therefore generally range between 4.5 and 7.5 dBA each time the distance doubles.

Existing Noise Sources and Levels

Transportation sources, such as automobiles, trucks, trains, and aircraft, are the principal sources of noise in the urban environment. Along major transportation corridors, noise levels can reach 80 DNL, while along arterial streets, noise levels typically range from 65 to 70 DNL. However, noise levels on roadways, like all areas, can be affected by intervening development, topography, or landscaping. Industrial and commercial equipment and operations also contribute to the ambient noise environment in their vicinities.

Roadway traffic generates noise throughout the city of Oakland. Railroad trains and BART intermittently generate noise levels that are significant along the railroad tracks. General aviation aircraft and jet aircraft contribute to intermittent noise levels in the city. Noise is also generated on individual parcels whether industrial, commercial or residential. These noise sources do not affect the overall noise environment throughout the community (Illingworth and Rodkin, 2004).

Primary noise sources in the Redevelopment area vicinity include traffic on the network of streets surrounding the Project Area. Noise from I-880 and the railroad are major sources at the southern borders of the Project Area. Traffic noise from I-980 is a major noise source along the western border of the Project Area. No major stationary or industrial noise sources are located within the area. **Table 4.10-2** presents noise data for roadways within the Project Area as compiled in the City’s General Plan Noise Element.

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others because of the amount of noise exposure, in terms of both duration and insulation from noise, and the types of activities typically involved. Residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, and parks and other outdoor recreation areas generally are more sensitive to noise than are commercial and industrial land uses.

The Project Area consists of a mixture of commercial, retail and office space as well as residential uses. Located within the Project Area are residential areas, day care facilities, senior community facilities, the recreational area of Lake Merritt and churches.

**TABLE 4.10-2
MONITORED NOISE ENVIRONMENTS WITHIN THE CBD**

Location	Duration/Descriptor	Noise Level (dBA)	Distance (feet)	Major Noise Source
Oak & 4th Street	24 Hour	71 Ldn	Property line	Vehicle traffic
San Pablo Ave. & 16th Street	30 Minute	63 CNEL	380 Feet	Vehicle traffic
16th Street & Clay Street	30 Minute	62 CNEL	300 Feet	Vehicle traffic
16th Street between Jefferson & Clay Streets	30 Minute	61 CNEL	300 Feet	Vehicle traffic
17th Street between MLK & Jefferson Street	30 Minute	66 CNEL	300 Feet	Vehicle traffic
9th Street	24 Hour	65 CNEL		Vehicle traffic
8th Street	24 Hour	66 CNEL		Vehicle traffic
Jefferson Street	24 Hour	71 CNEL		Vehicle traffic
Clay Street	24 Hour	71 CNEL		Vehicle traffic
Broadway & 3rd Street	15 Minute	70 Leq	Sidewalk	I-880, railway, Local traffic

SOURCE: City of Oakland, 2005.

4.10.2 Regulatory Setting

Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies. Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans identify general principles intended to guide and influence development plans; local noise ordinances establish standards and procedures for addressing specific noise sources and activities.

Federal

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under Title 40 Code of Federal Regulations (CFR) Part 205, Subpart B. The federal truck pass-by noise standard is 80 dB at 15 meters from the centerline of the vehicle pathway. These standards are implemented through regulatory controls on truck manufacturers.

State of California

The State of California establishes noise limits for vehicles licensed to operate on public roads. The pass-by standard for heavy trucks is consistent with the federal limit of 80 dB. The pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dB at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanctions on vehicle operators by state and local law enforcement officials.

Local Plans and Policies

City of Oakland General Plan

The Oakland General Plan contains guidelines for determining the compatibility of various land uses with different outdoor noise environments (City of Oakland, 2005). The Noise Element recognizes that some land uses are more sensitive to ambient noise levels than others, due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. The City uses state noise guidelines for judging the compatibility between various land uses and their noise environments, which are summarized in **Figure 4.10-1** for various common land uses.

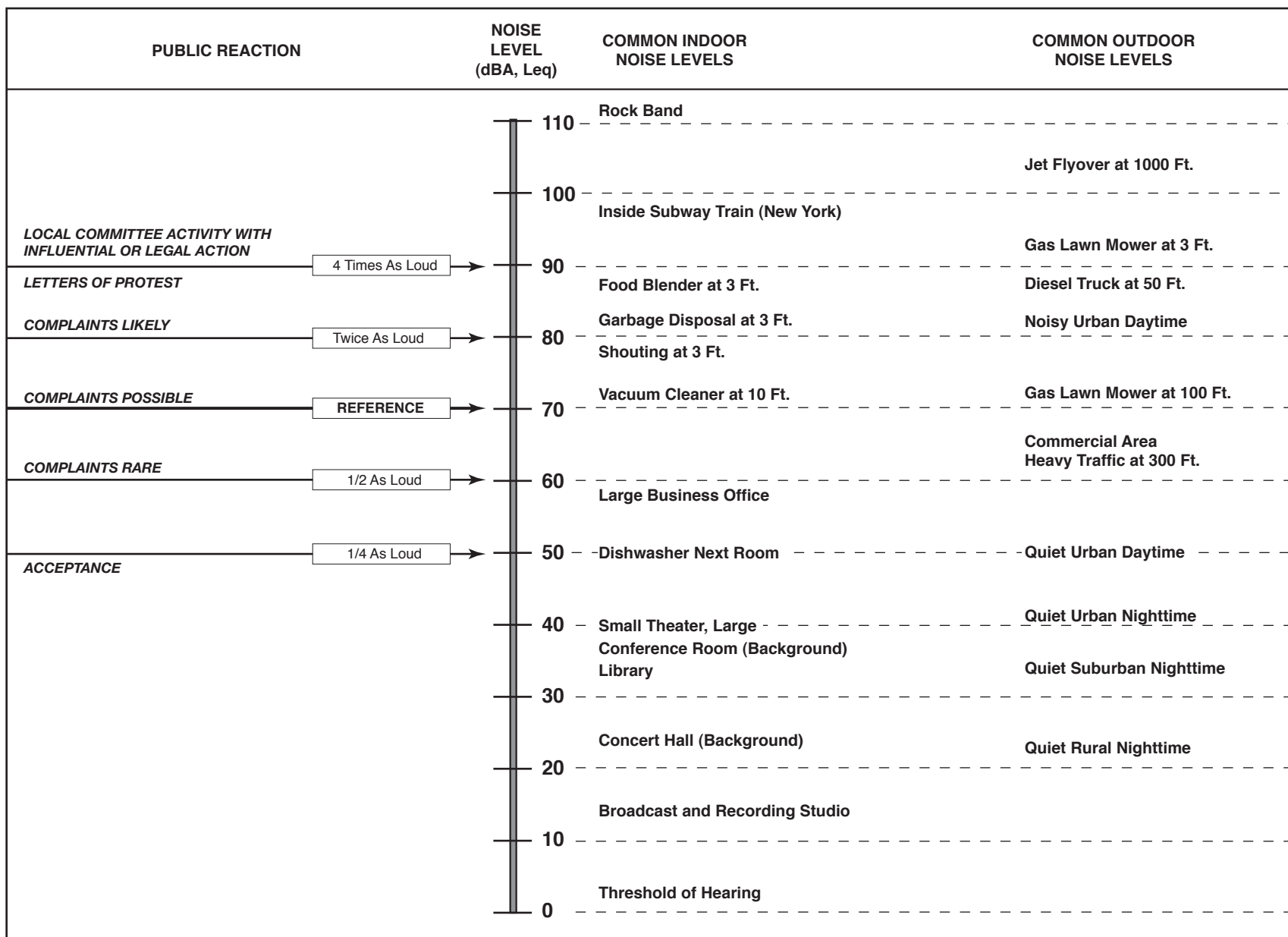
The Oakland General Plan Noise Element also identifies maximum interior noise levels generally considered acceptable for various common land uses (with windows closed). Relevant to the development facilitated by the Proposed Amendments, 50 dB is the maximum level acceptable for professional offices, research and development, auditoria, meeting halls, and 55 dB is the maximum level acceptable for retail, banks, restaurants, and sports clubs. The Noise Element contains the following applicable goals and policies:

- **Goal 1:** To protect Oakland's quality of life and the physical and mental well-being of residents and others in the City by reducing the community's exposure to noise; and
- **Goal 2:** To safeguard Oakland's economic welfare by mitigating noise incompatibilities among commercial, industrial and residential land uses.
 - *Policy 1:* Ensure the compatibility of existing and, especially, of proposed development projects not only with neighboring land uses but also with their surrounding noise environment.
 - *Policy 2:* Protect the noise environment by controlling the generation of noise by both stationary and mobile noise sources.
 - *Policy 3:* Reduce the community's exposure to noise by minimizing the noise levels that are *received* by Oakland residents and others in the City. (This policy addresses the *reception* of noise whereas Policy 2 addresses the *generation* of noise.)

City of Oakland Noise Ordinance

The City of Oakland also regulates noise through enforcement of its noise ordinance, which is found in Sections 8.18 and 17.120 of the Oakland Municipal Code. Per Chapter 8.18.020, the persistent maintenance or emission of any noise or sound produced by human, animal or mechanical means, between the hours of 9:00 p.m. and 7:00 a.m. which shall disturb the peace or comfort, or be injurious to the health of any person shall constitute a nuisance. Failure to comply with the following provisions shall constitute a nuisance.

- A. All construction equipment powered by internal combustion engines shall be properly muffled and maintained. Unnecessary idling of internal combustion engines is prohibited.



SOURCE: Caltrans Transportation Laboratory Noise Manual, 1982;
and modification by ESA

Proposed Amendments to the Central District Urban Renewal Plan . 210505.01

Figure 4.10-1
Effects of Noise on People

- B. All stationery noise-generating construction equipment such as tree grinders and air compressors are to be located as far as is practical from existing residences.
- C. Quiet construction equipment, particularly air compressors, is to be selected whenever possible.
- D. Use of pile drivers and jack hammers shall be prohibited on Sundays and holidays, except for emergencies and as approved in advance by the Building Official.

Whenever the existence of any such nuisance shall come to the attention of the Health Officer, it shall be his or her duty to notify in writing the occupant of the premises upon which such nuisance exists, specifying the measures necessary to abate such nuisance, and unless the same is abated within forty-eight (48) hours thereafter, the occupant so notified shall be guilty of an infraction, and the Health Officer shall summarily abate such nuisance. (Prior code § 3-1.02)

Chapter 17.120.050 of the Oakland Planning Code regulates only operational noise from stationary sources, as cities and counties do not have regulatory authority over noise from mobile sources (transportation noise). As mentioned above, transportation noise is regulated at the state and federal level by noise limits placed on vehicle manufacturers. **Table 4.10-3** (Table 1 of the City of Oakland's CEQA Thresholds/Criteria of Significance Guidelines) presents maximum allowable receiving noise standards applicable to long-term exposure for residential and civic land uses, for noise from stationary noise sources (not transportation noise). Once constructed, noise from a stationary source would be limited by the standards in **Table 4.10-4**. For example, between 7:00 a.m. and 10:00 p.m., residential and civic land uses, including public open spaces, may only be exposed to noises up to 60 dBA for a period of 20 cumulative minutes in a one-hour time period and a maximum of 80 dBA. The noise ordinance states that if the measured ambient noise level exceeds the applicable noise level standard in any category, then the stated applicable noise level shall be adjusted so as to equal the ambient noise level. In other words, if existing noise is measured to be louder than the maximum allowed (i.e., the "applicable noise level standard"), the existing noise level shall be considered the maximum allowed.

Commercial uses, between 7:00 a.m. and 10:00 p.m., may only be exposed to noises up to 65dBA for a period of 20 cumulative minutes in a one-hour time period and a maximum of 85 dBA.

Per Chapter 17.120.060 of the Oakland Planning Code, all activities, except those located within the M-40 zone, or in the M-30 zone more than 400 feet from any legal residentially occupied property, shall be so operated as not to create a vibration which is perceptible without instruments by the average person at or beyond any lot line of the lot containing such activities. Ground vibration caused by motor vehicles, trains, and temporary construction or demolition work is exempted from this standard. (Ord. 11895 § 8, 1996: prior planning code § 7711).

Table 4.10-4 (Table 2 of the City of Oakland's CEQA Thresholds/Criteria of Significance Guidelines) presents noise level standards from the noise ordinance that applies to temporary exposure to short- and long-term construction noise. In this context, short-term refers to construction activity lasting less than 10 days at a time while long-term refers to construction activities lasting greater than 10 days at a time.

TABLE 4.10-3
CITY OF OAKLAND OPERATIONAL NOISE STANDARDS AT RECEIVING PROPERTY LINE, DBA¹
(from stationary sources)

Receiving Land Use	Cumulative Number of Minutes in a 1-Hour Time Period ²	Maximum Allowable Noise Level Standards (dBA)	
		Daytime 7:00 a.m. to 10:00 p.m.	Nighttime 10:00 p.m. to 7:00 a.m.
Residential and Civic ³	20 (L ₃₃)	60	45
	10 (L _{16.7})	65	50
	5 (L _{8.3})	70	55
	1 (L _{1.7})	75	60
	0 (L _{max})	80	65
Anytime			
Commercial	20 (L ₃₃)	65	
	10 (L _{16.7})	70	
	5 (L _{8.3})	75	
	1 (L _{1.7})	80	
	0 (L _{max})	85	
Anytime			
Manufacturing, Mining, and Quarrying	20 (L ₃₃)	70	
	10 (L _{16.7})	75	
	5 (L _{8.3})	80	
	1 (L _{1.7})	85	
	0 (L _{max})	90	

¹ These standards are reduced 5 dBA for simple tone noise, noise consisting primarily of speech or music, or recurring impact noise. If the ambient noise level exceeds these standards, the standard shall be adjusted to equal the ambient noise level.

² L_x represents the noise level that is exceeded X percent of a given period. L_{max} is the maximum instantaneous noise level.

³ Legal residences, schools and childcare facilities, health care or nursing home, public open space, or similarly sensitive land uses

SOURCE: City of Oakland, 2008

TABLE 4.10-4
CITY OF OAKLAND CONSTRUCTION NOISE STANDARDS AT
RECEIVING PROPERTY LINE, DBA

Receiving Land Use	Daily 7:00 a.m. to 7:00 p.m.	Weekends 9:00 a.m. to 8:00 p.m.
Short-Term Operation (less than 10 days)		
Residential	80	65
Commercial, Industrial	85	70
Long-Term Operation (more than 10 days)		
Residential	65	55
Commercial, Industrial	70	60

During the hours of 7 p.m. to 7 a.m. on weekdays and 8 p.m. to 9 a.m. on weekends and federal holidays, noise levels received by any land use from construction or demolition shall not exceed the applicable nighttime operational noise level standard (see Table 4.10-4)

If the ambient noise level exceeds these standards, the standard shall be adjusted to equal the ambient noise level.

SOURCE: City of Oakland, 2008

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

The City of Oakland's SCAs relevant to reducing noise and vibration impacts due to development facilitated by the Proposed Amendments are listed below. If the Proposed Amendments are approved by the City, then all applicable SCA would be adopted as conditions of approval and required of development facilitated by the Proposed Amendments to help ensure less-than-significant impacts from noise and vibration. The SCA are incorporated and required as part of all approved projects, so they are not listed as mitigation measures.

- **SCA 28: Days/Hours of Construction Operation**

Ongoing throughout demolition, grading, and/or construction. The project applicant shall require construction contractors to limit standard construction activities as follows:

- a) Construction activities are limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday, except that pile driving and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m. Monday through Friday.
- b) Any construction activity proposed to occur outside of the standard hours of 7:00 a.m. to 7:00 p.m. Monday through Friday for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened and such construction activities shall only be allowed with the prior written authorization of the Building Services Division.
- c) Construction activity shall not occur on Saturdays, with the following possible exceptions:
 - i. Prior to the building being enclosed, requests for Saturday construction for special activities (such as concrete pouring which may require more continuous amounts of time), shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened. Such construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division.
 - ii. After the building is enclosed, requests for Saturday construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division, and only then within the interior of the building with the doors and windows closed.
- d) No extreme noise generating activities (greater than 90 dBA) shall be allowed on Saturdays, with no exceptions.
- e) No construction activity shall take place on Sundays or federal holidays.
- f) Construction activities include but are not limited to: truck idling, moving equipment (including trucks, elevators, etc) or materials, deliveries, and construction meetings held on-site in a non-enclosed area.

- g) Applicant shall use temporary power poles instead of generators where feasible.

- **SCA 29: Noise Control**

Ongoing throughout demolition, grading, and/or construction. To reduce noise impacts due to construction, the project applicant shall require construction contractors to implement a site-specific noise reduction program, subject to the Planning and Zoning Division and the Building Services Division review and approval, which includes the following measures:

- a) Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible).
- b) Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.
- c) Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures as determined by the City to provide equivalent noise reduction.
- d) The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determined an extension is necessary and all available noise reduction controls are implemented.

- **SCA 30: Noise Complaint Procedures**

Ongoing throughout demolition, grading, and/or construction. Prior to the issuance of each building permit, along with the submission of construction documents, the project applicant shall submit to the Building Services Division a list of measures to respond to and track complaints pertaining to construction noise. These measures shall include:

- a) A procedure and phone numbers for notifying the Building Services Division staff and Oakland Police Department; (during regular construction hours and off-hours);
- b) A sign posted on-site pertaining with permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and construction contractor's telephone numbers (during regular construction hours and off-hours);
- c) The designation of an on-site construction complaint and enforcement manager for the project;
- d) Notification of neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities about the estimated duration of the activity; and

- e) A preconstruction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

- **SCA 31: Interior Noise**

Prior to issuance of a building permit. If necessary to comply with the interior noise requirements of the City of Oakland's General Plan Noise Element and achieve an acceptable interior noise level, noise reduction in the form of sound-rated assemblies (i.e., windows, exterior doors, and walls) shall be incorporated into project building design, based upon recommendations of a qualified acoustical engineer and submitted to the Building Services Division for review and approval. Final recommendations for sound-rated assemblies will depend on the specific building designs and layout of buildings on the site and shall be determined during the design phases. Written confirmation by the acoustical consultant, HVAC or HERS specialist, shall be submitted for City review and approval, prior to Certificate of Occupancy (or equivalent) that:

- (a) Quality control was exercised during construction to ensure all air-gaps and penetrations of the building shell are controlled and sealed; and
- (b) Demonstrates compliance with interior noise standards based upon performance testing of a sample unit.
- (c) Inclusion of a Statement of Disclosure Notice in the CC&R's on the lease or title to all new tenants or owners of the units acknowledging the noise generating activity and the single event noise occurrences. Potential features/measures to reduce interior noise could include, but are not limited to, the following:
 - i. Installation of an alternative form of ventilation in all units identified in the acoustical analysis as not being able to meet the interior noise requirements due to adjacency to a noise generating activity, filtration of ambient make-up air in each unit and analysis of ventilation noise if ventilation is included in the recommendations by the acoustical analysis.
 - ii. Prohibition of Z-duct construction.

- **SCA 32: Operational Noise - General**

Ongoing. Noise levels from the activity, property, or any mechanical equipment on site shall comply with the performance standards of Section 17.120 of the Oakland Planning Code and Section 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the Planning and Zoning Division and Building Services.

- **SCA 38: Vibration**

A qualified acoustical consultant shall be retained by the project applicant during the design phase of the project to comment on structural design as it relates to reducing groundborne vibration at the project site. If required in order to reduce groundborne vibration to acceptable levels, the project applicant shall incorporate special building methods to reduce groundborne vibration being transmitted into project structures. The City shall review and approve the recommendations of the acoustical consultant and the plans

implementing such recommendations. Applicant shall implement the approved plans. Potential methods include the following:

- (a) Isolation of foundation and footings using resilient elements such as rubber bearing pads or springs, such as a “spring isolation” system that consists of resilient spring supports that can support the podium or residential foundations. The specific system shall be selected so that it can properly support the structural loads, and provide adequate filtering of ground-borne vibration to the residences above.
- (b) Trenching, which involves excavating soil between the railway/freeway and the project so that the vibration path is interrupted, thereby reducing the vibration levels before they enter the project’s structures. Since the reduction in vibration level is based on a ratio between trench depth and vibration wavelength, additional measurements shall be conducted to determine the vibration wavelengths affecting the project. Based on the resulting measurement findings, an adequate trench depth and, if required, suitable fill shall be identified (such as foamed styrene packing pellets (i.e., Styrofoam) or low-density polyethylene).

- **SCA 39: Pile Driving and Other Extreme Noise Generators**

Ongoing throughout demolition, grading, and/or construction. To further reduce potential pier drilling, pile driving and/or other extreme noise generating construction impacts greater than 90dBA, a set of site-specific noise attenuation measures shall be completed under the supervision of a qualified acoustical consultant. Prior to commencing construction, a plan for such measures shall be submitted for review and approval by the Planning and Zoning Division and the Building Services Division to ensure that maximum feasible noise attenuation will be achieved. This plan shall be based on the final design of the project. A third-party peer review, paid for by the project applicant, may be required to assist the City in evaluating the feasibility and effectiveness of the noise reduction plan submitted by the project applicant. A special inspection deposit is required to ensure compliance with the noise reduction plan. The amount of the deposit shall be determined by the Building Official, and the deposit shall be submitted by the project applicant concurrent with submittal of the noise reduction plan. The noise reduction plan shall include, but not be limited to, an evaluation of the following measures. These attenuation measures shall include as many of the following control strategies as applicable to the site and construction activity:

- a) Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings;
- b) Implement “quiet” pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;
- c) Utilize noise control blankets on the building structure as the building is erected to reduce noise emission from the site;
- d) Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example; and
- e) Monitor the effectiveness of noise attenuation measures by taking noise measurements.

- **SCA 57 : Vibrations Adjacent to Historic Structures**

Prior to issuance of a demolition, grading or building permit. The project applicant shall retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that could damage other nearby historic structures, and design means and methods of construction that shall be utilized to not exceed the thresholds.

4.10.3 Impacts and Mitigation Measures

Significance Criteria

Development facilitated by the Proposed Amendments would have a significant impact on the environment if it would:

1. Expose persons to or generate noise levels in excess of standards established in the Oakland General Plan or applicable standards of other agencies (e.g., OSHA);
2. Violate the City of Oakland Noise Ordinance (Oakland Planning Code Section 17.120.050) regarding operational noise per Table 4.10-3;
3. Violate the City of Oakland Noise Ordinance (Oakland Planning Code Section 17.120.050) regarding construction noise per Table 4.10-4, except if an acoustical analysis is performed;
4. Violate the City of Oakland Noise Ordinance (Oakland Municipal Code Section 8.18.020) regarding nuisance of persistent construction-related noise;
5. Create a vibration not associated with motor vehicles, trains, or temporary construction or demolition work which is perceptible without instruments by the average person at or beyond any lot line containing the vibration-causing activity, except vibration-causing activities located in the M-40 zone or in the M-30 zone more than 400 feet from any legally occupied residential property (Oakland Planning Code Section 17.120.060) (See criterion 6 for the threshold for rail-related vibration);
6. Expose persons to or generate rail-related groundborne vibration in excess of standards established by the Federal Transit Administration (FTA);
7. Generate interior Ldn or CNEL greater than 45 dBA for multi-family dwellings, hotels, motels, dormitories and long-term care facilities (and may be extended by local legislative action to include single family dwellings) per California Noise Insulation Standards (CCR Part 2, Title 24);
8. Result in a 5dBA permanent increase in ambient noise levels in the project vicinity above levels existing without the project. If the cumulative increase in noise results in a 5 dBA permanent increase in ambient noise levels in the project vicinity above existing levels without the project (i.e., cumulative conditions including the proposed project compared to existing conditions), the project's contribution to the cumulative increase would be cumulative considerable and significant if it results in a 3dBA permanent increase attributable to the project (i.e., cumulative conditions including the proposed project compared to cumulative conditions without the proposed project).
9. Conflict with land use compatibility guidelines for all specified land uses for determination of acceptability of noise (see Table 4.10-3) after incorporation of all applicable Standard Conditions of Approval;

10. Be located within an airport land use plan and would expose people residing or working in the project area to excessive noise levels; or
11. Be located within the vicinity of a private airstrip, and would expose people residing or working in the project area to excessive noise levels.

Since development facilitated by the Proposed Amendments would not include any vibration-causing activity aside from that associated with construction and motor vehicles, it can be assumed that no impact would occur with regard to criterion 6. Also, the Project Area is not located within the vicinity of a private airstrip nor is it located within the land use plan area for Oakland Airport or any other airport. Therefore, impacts associated with criteria 10 and 11 are not discussed further in this EIR.

Impacts

Construction Noise

Impact NOI-1: Development facilitated by the Proposed Amendments would result in substantial temporary or periodic increases in ambient noise levels in the Project Area above levels existing without the Amendment and in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (Less than Significant)

As indicated in Table 3-1 in Chapter 3, *Project Description*, Development facilitated by the Proposed Amendments would allow for construction of up to approximately 1.39 million square feet of retail and commercial space, 540,000 square feet of office space, 2,619 residential units, and 150,000 square foot hotel and a 39,000 seat ballpark over an 11-year timeframe. Furthermore, development facilitated by the Proposed Amendments would include infrastructure improvements, including such items as streetscape improvements, installation of utilities, traffic capacity projects, mass-transit improvements, parking facilities, and storm drainage improvements.

Construction, although typically short-term, can be a significant source of noise. Construction is most significant when it takes place near sensitive land uses, occurs at night, or in early morning hours. Local governments typically regulate noise associated with construction equipment and activities through enforcement of noise ordinance standards, implementation of General Plan policies and imposition of conditions of approval for building or grading permits. **Table 4.10-5** shows typical exterior noise levels at various phases of commercial construction and **Table 4.10-6** shows typical noise levels associated with various types of construction related machinery.

Construction-related activities would temporarily increase ambient noise levels within the Project Area over the duration of construction. Construction-related noise levels within and adjacent to the Project Area would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. The effect of construction noise would depend upon the level of construction activity on a given day, the related noise generated by that activity, the distance between construction activities, the nearest noise-sensitive uses, and the existing noise levels at those uses.

**TABLE 4.10-5
TYPICAL CONSTRUCTION NOISE LEVELS**

Phase	Noise Level (L_{eq})^a
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Exterior Finishing	89
Pile Driving	90-105

^a Estimates correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase and 200 feet from the other equipment associated with that phase.

SOURCE: U.S. Environmental Protection Agency, *Noise from Construction Equipment and Building Operations, Building Equipment and Home Appliances*, December 1971

**TABLE 4.10-6
TYPICAL MAXIMUM NOISE LEVELS FROM CONSTRUCTION EQUIPMENT**

Construction Equipment	Noise Level (dBA, L_{eq} at 50 feet)
Backhoe	80
Rock Drill	98
Air Compressor	81
Dozer	85
Air Compressor	85
Mobile Crane	83
Grader	85
Front End Loader	85
Trucks	88
Cranes	83
Pile Driver (Sonic)	96
Pile Driver (Impact)	101

SOURCE: FTA, 2006.

The dominant construction equipment noise source is usually a diesel engine without sufficient muffling. Stationary equipment consists of equipment that generates noise from one general area and includes items such as pumps, generators, compressors, etc. These types of equipment operate at a constant noise level under normal operation and are classified as non-impact equipment. Other types of stationary equipment such as pile drivers, jackhammers, and pavement breakers, etc., produce variable and sporadic noise levels and often produce impact-type noises. Impact equipment is equipment that generates impulsive noise, where impulsive noise is defined as noise of short duration (generally less than one second), high intensity, abrupt onset, rapid decay, and often rapidly changing spectral composition. For impact equipment, the noise is produced by the impact of a mass on a surface, typically repeating over time. Mobile equipment such as dozers, scrapers,

graders, etc., may operate with power applied in a cyclic fashion in which a period of full power is followed by a period of reduced power. Other equipment such as compressors, although generally considered to be stationary when operating, can be readily relocated to another location for the next operation. Construction-related noise levels generally fluctuate depending on the construction phase, equipment type and duration of use, distance between noise source and receptor, and presence or absence of barriers between the noise source and receptor.

Noise from construction activity generally attenuates (decreases) at a rate of 6.0 to 7.5 dBA per doubling of distance. Development of new land uses proposed in the Project Area could expose nearby residences to noise levels as high as 89 dBA at 50 feet using typical construction methods and up to 105 dBA at 50 feet if pile driving is required, which would be likely for the proposed Victory Court ballpark. However even without pile driving, noise levels associated with construction would be significantly greater than existing noise levels at nearby receptors.

Compliance with City of Oakland Noise Standards

The City of Oakland noise ordinance establishes quantitative limits for construction-related noise. As noted above, building construction noise during the noisiest phases, primarily pile driving, of construction would be 90 to 105 L_{eq} at 50 feet. These predicted noise levels would exceed the standards of the City of Oakland's Noise Ordinance, which states that, for residential receptors, the maximum allowable receiving noise for weekdays (Monday through Friday, 7:00 a.m. to 7:00 p.m.) is 65 dBA for construction activity of greater than 10 days duration and 80 dBA for construction activity of 10 days or less. Also, during nighttime, temporary construction-related noise could be more disturbing given the more sensitive nature of the nighttime period. Temporary construction noise impacts could be significant unless proper mitigation is followed.

According to Section 8.18.020 of the Health and Safety Code, the persistent emission of any noise produced by mechanical means between the hours of 9:00 p.m. and 7:00 a.m., could constitute a nuisance if the raucous noise disturbs the peace or comfort or is injurious to the health of any exposed individual. The nuisance of persistent construction-related noise impacts could be significant unless proper mitigation is followed.

Effects of Extreme Noise Activities and Vibration

Noise from construction activities generally attenuates at a rate of 6.0 to 7.5 dBA per doubling of distance. As discussed above, the nearest sensitive uses could be as close as 50 feet from a given development project site. These areas would temporarily and intermittently experience maximum noise levels of up to 105 dBA with pile driving, typically the loudest source of construction noise. Impacts from pile driving can result from both elevated single-event or "impact" noise levels and from vibration. Pile driving could produce elevated noise levels, even when feasible noise reduction methods are used.

Implementation of SCA 28, *Days/Hours of Construction Operation*, SCA 29, *Noise Control*, SCA 30, *Noise Complaint Procedures*, and SCA 39, *Pile Driving and Other Extreme Noise Generators*, would reduce construction noise levels by limiting hours of construction activities, requiring best available noise control technology, and by requiring a Project applicant and/or its

contractors to notify any local residents (if any) of construction activities and to track and respond to noise complaints. To specifically address impacts from pile drilling and other extreme noise generating construction activities that may expose sensitive receptors to noise levels greater than 90 dBA, L_{max} , part of SCA 39, requires a project applicant to develop and submit for review and approval by the City a Site-specific Construction Noise Reduction Plan that would ensure that maximum feasible noise attenuation will be achieved. The applicant will submit this plan for review and approval. The estimated noise level associated with pile driving could exceed the 90 dBA, L_{max} .

Depending on the construction equipment used, groundborne vibrations can be perceptible within 30 to 100 feet of a source. Structural damage from pile driving typically does not occur in buildings more than 50 feet from the location of the activity (Caltrans, 2004). However, these vibrations could result in cosmetic or structural damage to within 50 feet of a project site and construction area. All projects facilitated by the Proposed Amendments, if approved, would be required to incorporate SCA 38, *Vibration*, and SCA 57, *Vibrations Adjacent to Historic Structures*, to address the potential effects of groundborne vibration. SCA 57 requires that the Project applicant retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that could affect portions of adjacent structures and design means and methods of construction that shall be utilized to avoid potential impacts.

Implementation of SCAs 28, 29, 30, 38, 39 and 57 would reduce impacts from construction noise and vibration. SCA's have been developed by the City of Oakland over the past decade to reduce construction noise impacts to the degree feasible. SCA 28 restricts the hours and days of construction activity. SCA 29 requires contractors to implement a construction noise reduction program SCA 30 establishes construction noise complaint procedures, while SCA 39 establishes a set of site-specific noise attenuation measures to address noise from pile driving. These SCA's are comprehensive in their content and for practical purposes represent all feasible measures available to mitigate construction noise. Implementation of these measures will reduce construction impacts associated with extreme noise actions and vibration to less than significant levels, except as discussed in Impact NOI-2.

Mitigation: None Required.

Ballpark Construction Noise

Impact NOI-2: Construction pile driving for the Victory Court ballpark that could be facilitated by the Proposed Amendments could increase ambient noise levels for an extended duration and adversely affect the surrounding noise environment. (Significant)

The Proposed Amendments include, at a programmatic level, development of a 39,000-seat ballpark at Victory Court, located near the Inner Harbor and adjacent to commercial and residential uses. The Inner Harbor and estuary area has low depth to groundwater, and construction would likely require the driving of a substantial number of piles over an extended period of several months, well beyond the duration of typical development in the area. The

specific number of piles needed is not available at this time for assessment given the programmatic and conceptual stage of the potential ballpark. Sensitive noise receptors in the area of the ballpark include residential apartments and live-work units around the Victory Court site.

SCA 39, *Pile Driving and Other Extreme Noise Generators*, establishes a set of site-specific noise attenuation measures to address noise from pile driving. These measures address temporary impacts from pile driving for most typical applications. However, even with implementation of measures in SCA 39, the duration of pile driving necessary to support a 39,000-foot ballpark would result in an extended period of potential impact to the nearest receptors that may be considered significant. While measures in SCA 39 will reduce pile driving noise impacts to less-than-significant levels, common applications of pile driving for the ballpark structure would remain significant given the extensive number of piles likely, and the extended duration of construction combined with the close proximity of sensitive noise receptors may result in this impact remaining significant even with implementation of these measures. However, it is not feasible to determine the impacts at this time. Therefore, this EIR conservatively identifies construction noise impacts from construction of the Victory Court ballpark that may be facilitated by the Proposed Amendments as significant and unavoidable, even with incorporation of SCA 39.

Mitigation: No Additional Feasible Mitigation is Available.

Significance: Significant and Unavoidable.

Operational Noise

Impact NOI-3: Development facilitated by the Proposed Amendments could increase noise levels in the Project Area to levels in excess of standards established in the Oakland Noise Ordinance and Planning Code. (Less than Significant)

Chapter 17.120.050 of the City of Oakland Planning Code specifies the maximum sound level received at public open spaces and commercial land uses. The maximum sound level (L_{max}) received by public open spaces cannot exceed 80 dBA and commercial land uses cannot exceed 85 dBA. Per Table 4.10-4, public open spaces must not exceed 60 dBA and commercial land uses cannot exceed 65 dBA during daytime hours as measured at the property line over a 20 minutes in a one-hour time period. However, per the City of Oakland, if existing noise is measured to be louder than the applicable noise level standard, the existing noise level shall be considered the maximum allowed, which is the case along many of the arterial streets in the Project Area (see Table 4.10-2).

The office and retail developments would generate some noise from heating, ventilating, and air conditioning mechanical equipment. Since the mechanical equipment would be standardized for commercial and retail buildings, the equipment's noise generation would not be expected to exceed the City's established threshold of 67 dBA. Also, development would adhere to SCA 31, *Interior*

Noise, and SCA 32, *Operational Noise (General)*). Therefore, noise impacts from development facilitated by the Proposed Amendments related to stationary sources would be less than significant.

Mitigation: None Required.

Ballpark / Special Events Operational Noise

Impact NOI-4: Operational noise generated by the Victory Court ballpark that could be facilitated by the Proposed Amendments would generate special event noise levels in the Project Area to levels in excess of standards established in the Oakland Noise Ordinance and Planning Code. (Significant)

The Proposed Amendments include, at a programmatic level, development of a 39,000-seat ballpark at Victory Court. As discussed in Impact NOI-2, the ballpark would be located adjacent to residential and live-work uses. It would also result in approximately 81 baseball events per year in addition to intermittent use as a concert venue.

Generally, the Victory Court Ballpark would generate traffic noise, crowd noise and perhaps special event (concert) noise that would be addressed at a project-level in a separate environmental review should the development, which is currently in conceptual and programmatic stages, move forward. Event noise in the stadium during baseball games or special events that could produce noise that affects surrounding sensitive uses include game spectators/concert audience and amplified speech and music broadcast over the ballpark/concert sound system. There would also be event day changes to the traffic flows, with consequent changes in traffic noise levels and patterns nearby.

Traffic noise levels along roadways during a game or concert day were not modeled for this programmatic analysis because roadway segment impact analysis presented in the transportation section does not account for potential impacts caused by the traffic generated by the proposed ballpark specifically (see Impact TRA-4). However, noise from new outdoor ballpark and concert venues has been documented to potentially result in adverse community reaction².

These operational noise impacts are considered potentially significant and the degree and availability of mitigation to reduce the magnitude of the potential noise impacts on nearby sensitive land uses is limited. SCA 32 that addresses operational noise will apply to the ballpark if it is developed and address mechanical equipment on site. Also, project-level analysis of the ballpark may incorporate measures that reduce local traffic volumes during special events (Mitigation Measure TRA-4.1, in Section 4.13, *Transportation and Circulation*). However, mitigation to effectively address the effects of special event noise from stadium crowds or amplified speech approximately 81 times a year is limited given the unique characteristic of the operations, and is not quantifiable for effectiveness at this time. Mitigation Measures NOI-4a and

² City of San Francisco, Draft Environmental Impact Report for Candlestick Point- Hunters Point Shipyard Phase II Development Plan, May, 2010.

NOI-4b are identified to reduce the magnitude of the potential noise impacts on nearby sensitive land uses, however there is no proven method that could be incorporated into the ballpark development to contain event noise from crowds or amplified speech in an open air ballpark at levels that would not affect sensitive noise receptors. Therefore, considering operation of the Victory Court ballpark that may be facilitated by the Proposed Amendments, ballpark and special event noise impacts would be significant and unavoidable for the nearest sensitive receptors, even with incorporation of SCA 32 and Mitigation Measures NOI-4a and NOI-4b.

Mitigation Measure NOI-4a: The City shall ensure that the Victory Court ballpark public address system shall be comprised of a distributed speaker system on-site, which would locate speakers around each section of the park to minimize the impact that might be generated by fewer but louder or high-mounted speaker units.

Mitigation Measure NOI-4b: Prior to the first ballpark event at Victory Court, the City shall conduct a detailed acoustic study to assess the predicted long-term noise levels from the Victory Court ballpark at noise sensitive uses. The study shall be used to determine noise attenuation measures necessary to achieve a 45 dBA L_{eq} interior noise level at residences within 300 feet (or one-block) of the ballpark, during ballpark events. Attenuation measures at the stadium shall include, but not be limited to, distributed speakers for the public address system and limitations placed on sound levels associated with various activities to meet the interior noise level standard of 45 dBA L_{eq} . Noise measures shall be taken at receptor locations only with affected property owners' consent, and attenuation measures at or within the affected residences may include, but are not limited to, installation of dual-pane windows, mechanical air conditioning, sound walls and improved ceiling and wall insulation. Within one year after the first ballpark event at Victory Court, the City shall confirm the effectiveness of implemented noise measures, and implement any corrective measures within one additional year.

Implementation of mitigation measures NOI-4a and NOI-4b would reduce impacts associated with special event noise at Victory Court. However, the impact would remain significant and unavoidable as the effectiveness of Mitigation Measures NOI-4a and 4b to reduce interior noise levels at nearby residents can not be known at this time.

Significance after Mitigation: Significant and Unavoidable.

Traffic Noise

Impact NOI-5: Traffic generated by development facilitated by the Proposed Amendments could substantially increase traffic noise levels in the Project Area. (Less than Significant)

Additional vehicles traveling throughout the Project Area as a result of the development facilitated by the Proposed Amendments would increase noise levels adjacent to nearby roads. Based on the City of Oakland's CEQA Thresholds, a project would be considered to generate a significant impact if it resulted in a 5 dBA permanent increase in ambient noise levels in the Project vicinity above levels existing without the project. Noise levels were determined for this

analysis using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model and the turning movements in the traffic section for Existing (2010), Existing Plus Project, Near Term (2015), and Near Term Plus Project (2015) conditions (see Appendix E). The Near Term Plus Project scenario includes Project traffic plus traffic from other approved or pending projects for the year 2015 (assumed build-out year of all projects).

Project trips (associated with development facilitated by the Proposed Amendments) would be distributed over the local street network and would affect roadside noise levels. Peak hour (morning) intersection turning data from the traffic study were analyzed to evaluate increases and resulting traffic-generated noise increases on roadway links most affected by Project-related traffic and nearest the Project Area. Noise levels at other times would be lower. The segments analyzed and the results of the noise increases resulting from modeling are shown in **Table 4.10-7**, below.

The increase in traffic noise from the Existing Plus Project (2010) scenario compared to the Existing (2010) scenario would increase peak hour noise levels by less than 5 dBA at all studied roadway segments. The increase in traffic noise from the Near Term Plus Project (2015) scenario compared to the Existing (2010) scenario would increase peak hour noise levels by less than 5 dBA at all roadway segments. Noise increases along roadways would be a less-than-significant impact.

Mitigation: None Required.

Cumulative Noise Impacts

Impact NOI-6: Traffic generated by development facilitated by the Proposed Amendments, in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could substantially increase traffic noise levels in the Project Area; and construction and operational noise levels in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could increase ambient noise levels. (Less than Significant)

Geographic Context

The geographic area considered for cumulative noise analysis includes areas within and surrounding the Project Area and roadways examined in the transportation analysis in Section 4.13, *Transportation and Circulation*. These include areas of Oakland that encompass the projects included in the City of Oakland's Major Projects List in Appendix B to this Draft EIR and area projects incorporated into the regional travel demand model, as discussed in Section 4.07.2, *Cumulative Context*, in the front of Chapter 4 of this Draft EIR.

Impacts

Longer-term noise from cumulative development, which is the development facilitated by the Proposed Amendments combined with past, present, pending, and reasonably foreseeable development in the area, would primarily occur from motor vehicle traffic. When considered

**TABLE 4.10-7
PEAK-HOUR TRAFFIC NOISE LEVELS IN THE PROJECT VICINITY
EXISTING (2007) VERSUS NEAR TERM PLUS PROJECT (2015)**

Roadway Segment	A.M. Peak Hour Noise Levels, dBA, Leq ^a					
	(A) Existing	(B) Existing Plus Project	(B-A) Difference between Existing Plus Project and Existing	(C) Near Term Without Project (2015)	(D) Near Term Plus Project (2015)	(D-A) Difference between Near Term Plus Project and Existing ^d
5th Street west of Broadway	65.7	65.8	0.1	66.3	66.4	0.7
6th Street west of Broadway	67.4	67.4	0.0	68.1	68.1	0.7
7th Street east of Mandela Pkwy	66.8	66.8	0.0	67.8	67.8	1.0
7th Street west of Clay Street	65.2	65.4	0.2	66.5	66.6	1.4
8th Street west of Broadway	62.7	62.9	0.2	64.7	65.0	2.3
7th Street east of Fallon Street	68.5	68.5	0.0	69.7	69.7	1.2
11th Street west of Broadway	64.5	64.5	0.0	64.6	64.7	0.2
11th Street west of Oak Street	61.9	62.4	0.5	62.6	62.9	1.0
12th Street west of Broadway	64.3	64.5	0.2	65.40	65.5	1.2
12th Street west of Oak Street	70.4	70.5	0.1	70.5	70.5	0.1
East 12th Street east of 5th Avenue	67.9	68.0	0.1	68.4	68.5	0.6
14th Street west of Oak Street	67.8	67.9	0.1	68.3	68.4	0.6
14th Street west of Broadway	64.3	64.4	0.1	64.4	64.5	0.2
West Grand Avenue west of MLK Way	69.3	69.5	0.2	70.1	70.3	1.0
Grand Avenue between Harrison Street and I-580	70.2	70.4	0.2	70.7	70.9	0.7
27th Street west of Harrison Street	66.4	66.7	0.3	67.2	67.5	1.1
Embarcadero east of Oak Street	62.9	64.3	0.4	64.4	65.4	2.5
Embarcadero east of 5th Avenue	65.7	66.2	0.5	66.5	67.0	1.3
San Pablo Avenue north of West Grand Avenue	68.3	68.6	0.3	69.1	69.3	1.0
Broadway north of Grand Avenue	67.4	68.2	0.81	68.1	68.7	1.3
Broadway north of 8th Street	66.7	66.8	0.1	66.7	66.9	0.2
Harrison Street north of Grand Avenue	68.6	68.7	0.1	69.0	69.2	0.6
Jackson Street north of 7th Street	64.5	64.7	0.2	64.8	65.0	0.5
Madison Street north of 8th Street	64.0	64.8	0.8	64.9	65.6	1.6
Oak Street north of 8th Street	66.2	66.6	0.4	66.2	66.6	0.2
5th Avenue south of East 12th Street	64.0	64.7	0.7	65.1	65.6	1.6

^a Considered significant if the incremental increase in noise from traffic is greater than the existing ambient noise level by 5 dBA Leq, per City of Oakland, CEQA Thresholds/Criteria of Significance Guidelines. Violations are in **bolded** text.

^b Road center to receptor distance is 15 meters (approximately 50 feet) for all roadway segments. Noise levels were determined using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model.

^c The analysis considered the vehicle mix based on – cars 97 percent, medium trucks 2 percent, and heavy trucks 1 percent. Traffic speeds for all vehicle classes were set at 25 mph.

^d Considered significant if the incremental increase in noise is greater than 5 dBA.

SOURCE: ESA, 2010

alone, the development facilitated by the Proposed Amendments would generate noise mainly by adding more traffic to the area. Other anticipated projects would contribute to noise in the area due to increased traffic volumes. Notably, any project that would individually have a significant project level noise impact would also be considered to have a significant cumulative noise impact.

As noted in Impact NOI-5 and based on the City of Oakland's CEQA Thresholds, a project would be considered to generate a significant impact if it resulted in a 5 dBA permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. As for Impact NOI-5, noise levels were determined for using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model and the turning movements in the traffic section for, Cumulative Without Project (2035), and Cumulative Plus Project (2035) conditions (see Appendix E). The segments analyzed and the results of the noise increases resulting from modeling are shown in **Table 4.10-8** for Cumulative Plus Project traffic, which includes Project traffic combined with traffic from other approved or pending projects for the year 2035 (assumed build-out year of all projects).

Table 4.10-8 shows the increase in traffic from between the Cumulative Plus Project (2035) scenario and Existing (2007) would increase peak hour noise levels by less than 5 dBA at most roadway segments, except at the roadway segments 8th Street west of Broadway, where the increase is 6.1 dBA, and Embarcadero east of Oak Street, where the increase is 5.3 dBA. The Project's contribution to the 2035 cumulative roadway noise increase (Existing compared to Cumulative Plus Project) is 0.1 dBA along 8th Street west of Broadway, and 0.5 dBA along Embarcadero east of Oak Street. Because these increases are less than the significance threshold of 3dBA, this is not considered a considerable contribution to the cumulative impact in 2030 and a less than significant cumulative noise impact.

Construction impacts resulting from cumulative development would remain less than significant as all cumulative development in the cumulative geographic context would incorporate SCAs for construction activities, as discussed in Impact NOI-1. Similarly, operational noise associated primarily with mechanical operations of cumulative development also would be at less than significant levels; all development would adhere to SCAs for operational noise, as discussed in Impact NOI-3.

All cumulative noise impacts associated with traffic noise, construction and operations, would be less than significant.

Mitigation: None Required.

**TABLE 4.10-8
PEAK-HOUR TRAFFIC NOISE LEVELS IN THE PROJECT VICINITY
EXISTING (2007) VERSUS CUMULATIVE PLUS PROJECT (2035)**

Roadway Segment	A.M. Peak Hour Noise Levels, dBA, Leq ^a				
	(A) Existing	(B) Cumulative Without Project (2035)	(C) Cumulative Plus Project (2035)	(C-A) Difference between Cumulative Plus Project and Existing ^d (2035)	(C-B) Difference between Cumulative Plus Project and Cumulative Without Project ^e (2035)
5th Street west of Broadway	65.7	68.3	68.3	2.6	NA
6th Street west of Broadway	67.4	70.0	70.0	2.6	NA
7th Street east of Mandela Pkwy	66.8	70.4	70.4	3.6	NA
7th Street west of Clay Street	65.2	69.5	69.6	4.4	NA
8th Street west of Broadway	62.7	68.7	68.8	6.1	0.1
7th Street east of Fallon Street	68.5	72.8	72.8	4.3	NA
11th Street west of Broadway	64.5	65.1	65.1	0.6	NA
11th Street west of Oak Street	61.9	64.3	64.5	2.6	NA
12th Street west of Broadway	64.3	68.2	68.3	4.0	NA
12th Street west of Oak Street	70.4	70.5	70.5	0.1	NA
East 12th Street east of 5th Avenue	67.9	70.1	70.1	2.2	NA
14th Street west of Oak Street	67.8	69.9	70.0	2.2	NA
14th Street west of Broadway	64.3	64.8	64.9	0.6	NA
West Grand Avenue west of MLK Way	69.3	72.4	72.5	2.2	NA
Grand Avenue between Harrison Street and I-580	70.2	72.3	72.4	2.2	NA
27th Street west of Harrison Street	66.4	69.6	69.8	3.4	NA
Embarcadero east of Oak Street	62.9	67.7	68.2	5.3	0.5
Embarcadero east of 5th Avenue	65.7	69.0	69.2	3.5	NA
San Pablo Avenue north of West Grand Avenue	68.3	71.2	71.4	3.1	NA
Broadway north of Grand Avenue	67.4	69.9	70.3	2.9	NA
Broadway north of 8th Street	66.7	66.9	67.1	0.4	NA
Harrison Street north of Grand Avenue	68.6	70.6	70.6	2.0	NA
Jackson Street north of 7th Street	64.5	65.9	66.1	1.6	NA
Madison Street north of 8th Street	64.0	67.5	67.9	3.9	NA
Oak Street north of 8th Street	66.2	66.2	66.6	0.4	NA
5th Avenue south of East 12th Street	64.0	67.8	68.1	4.1	0.3

^a Considered significant if the incremental increase in noise from traffic is greater than the existing ambient noise level by 5 dBA Leq, per City of Oakland, CEQA Thresholds/Criteria of Significance Guidelines. Violations are in **bolded** text.

^b Road center to receptor distance is 15 meters (approximately 50 feet) for all roadway segments. Noise levels were determined using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model.

^c The analysis considered the vehicle mix based on – cars 97 percent, medium trucks 2 percent, and heavy trucks 1 percent. Traffic speeds for all vehicle classes were set at 25 mph.

^d Considered significant cumulative incremental increase in noise is greater than 5 dBA.

^e If Cumulative plus Project related noise increase is considered significant (greater than 5 dBA), the impact is considered significant if the incremental increase in roadway noise from the Cumulative With Project compared to Cumulative Without Project is greater than 3 dBA when compared to existing conditions.

SOURCE: ESA, 2010

Ballpark / Special Events

Impact NOI-7: Noise generated by the Victory Court ballpark that could be facilitated by the Proposed Amendments, in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could result in a 5dBA permanent increase in ambient noise levels in the project vicinity above levels existing without development facilitated by the Proposed Amendments; and could substantially increase construction noise and operational noise in the Project Area. (Significant)

The roadway segment noise impact analysis presented in Impacts NOI-5 and NOI-6 accounts for traffic that would be regularly generated during typical weekday AM commute periods by development facilitated by the Proposed Amendments, except that it does not consider traffic generated by the potential ballpark. The ballpark would attract up to 39,000 people to the vicinity during events. People attending events at the ballpark would use the transportation network, including public transportation services and private automobile, serving the study area. The additional demand for public transportation services, and traffic generated by the ballpark, is expected to adversely affect the transportation network in the project area (see Impact TRA-4 in Section 4.13, *Transportation and Circulation*). These adverse affects would only occur on days with games or special events – approximately 81 occasions a year. The ballpark would not generate a noticeable amount of traffic on most days of the year.

The noise impacts of events at the ballpark on the surrounding transportation network cannot be feasibly analyzed at a project-level of detail at this time. This future analysis would identify specific mitigation measures to reduce its impacts, which would also affect traffic related noise (see Mitigation Measures TRA-1.1 and TRA-4.1). However, without specific data on roadway volumes for roadways used to access the ballpark, a quantitative analysis is not possible. Therefore, because the transportation analysis identifies the transportation-related impacts of the ballpark to be significant and unavoidable, this analysis conservatively identifies transportation noise impact associated with the ballpark to also be potentially significant and unavoidable. Mitigation Measures TRA-1.1 and TRA-4.1 are identified here to also help reduce traffic noise effects of the ballpark, but not to less-than-significant levels given the effectiveness of such mitigations cannot be known.

Mitigation Measure NOI-7:

- ***Implement Mitigation Measure TRA-1.1.*** The impacts of events at the ballpark on the surrounding transportation network will be analyzed as part of the project-level environmental analysis for that project. This analysis will identify specific mitigation measures to reduce its impacts and to improve access and circulation for automobiles, transit, pedestrians, and bicycles.
- ***Implement Mitigation Measure TRA-4.1: Prepare Special Event Transportation and Parking Management Plan.*** Prepare a Transportation and Parking Management Plan (TPMP) to minimize the impacts of special events at the ballpark on the surrounding transportation network.

These strategies would likely reduce the magnitude of the impacts on the transportation network. However, it is not feasible to determine their effectiveness at this time. Therefore,

this EIR conservatively identifies transportation noise impacts that would result from the proposed ballpark as significant and unavoidable impacts.

Significance after Mitigation: Significant and Unavoidable.

4.10.4 References

- California Department of Transportation (Caltrans), *Technical Noise Supplement: A Technical Supplement to the Traffic Noise Analysis Protocol*, October 1998a.
- California Department of Transportation (Caltrans), *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects*, October 1998b.
- California Department of Transportation (Caltrans), *Transportation- and Construction-Induced Vibration Guidance Manual*, June 2004.
- City of Oakland, *Noise Element, City of Oakland General Plan*, June 21, 2005.
- City of Oakland, "CEQA Thresholds/Criteria of Significance Guidelines," 2010.
- Federal Transit Administration (FTA), *Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06)*, May 2006.
- Layne-Christiansen, Safety and Environmental Health Sciences Department, *Noise Evaluation: Ingersoll-Rand TH-75E Reverse Circulation Air Rotary Drilling Rig*, 2004.

4.11 Population, Housing, and Employment

This section addresses existing conditions, trends, and impacts of the development facilitated by the Proposed Amendments related to population, housing, business activity, and employment. Population and employment growth to be facilitated by the Proposed Amendments are quantified and described along with the anticipated contributions to downtown and citywide growth, providing the context for considering and understanding potential physical environmental impacts analyzed in this and other sections of the EIR. The impact assessment in this section focuses on possible displacement of housing, people, businesses, and jobs, and on the inducement of population and employment growth.

4.11.1 Environmental Setting

The following setting identifies existing conditions and trends for downtown Oakland and the Central District Redevelopment Project Area. It presents the citywide and regional context for employment, housing, and population, along with identification of the relationships between jobs and housing. Then, the population and employment growth in development to be facilitated by the Proposed Amendments are identified and described to provide context for the impact assessment in this and other sections of the EIR.

Central District Project Area and Downtown Oakland

Existing Conditions

The Central District Redevelopment Project Area includes a large part of greater downtown Oakland (defined as the area bounded by I-580, Lake Merritt and the Channel, the Oakland Estuary, and I-980 and Brush Street). The Project Area includes the City Center area, Old Oakland, Chinatown, the Uptown District, parts of the Jack London District (north of the Embarcadero), and much of the County government area near Lake Merritt. The Project Area also extends north of Grand Avenue to 27th/28th Streets to include the area referred to as the Valdez Triangle and parts of the Telegraph/Northgate area to the west.

Currently, there are approximately 59,000 people employed in the Project Area, down from employment of about 64,000 due to the recent economic recession. Office employment in both private sector and government office activities represents the large majority of all Project Area employment. There also is employment in retail, restaurant, entertainment, and hotel activities, and employment in various service, cultural/arts, wholesale, auto-related, and non-office public sector activities. Employment in the Project Area represents 77 percent of total greater downtown employment. Downtown Oakland is the major employment center in Oakland and represents the largest concentration of business activity and employment in the Bay Area outside of downtown San Francisco. (Concentration measured in terms of total amount and density of employment within a definable area.) In total, greater downtown employment represents about 41 percent of total employment in Oakland. The employment data are presented in **Table 4.11-1**.

**TABLE 4.11-1
EMPLOYMENT, HOUSEHOLDS, AND POPULATION FOR PROJECT AREA, GREATER DOWNTOWN,
AND THE CITY OF OAKLAND: 2000, 2005, 2010, AND 2035**

					Change 2000-2010			Change 2010-2035		
	2000 ^c	2005 ^c	2010 ^d	2035 ^e	Change	Percent	Annual Rate	Change	Percent	Annual Rate
Employment										
Project Area ^a	61,980	63,940	59,100	93,200	-2,880	-4.6%	-0.5%	+34,100	+58%	1.8%
Greater Downtown ^b	80,440	82,160	76,500	122,010	-3,940	-4.9%	-0.5%	+45,510	+59%	1.9%
City of Oakland	199,470	202,570	188,600	285,600	-10,870	-5.4%	-0.6%	+97,000	+51%	1.7%
Households										
Project Area ^a	7,720	8,890	10,820	28,930	+3,100	+40.2%	+3.4%	+18,110	+167%	4.0%
Greater Downtown ^b	18,040	19,650	21,950	43,310	+3,910	+21.7%	+2.0%	+21,360	+97%	2.8%
City of Oakland	150,790	154,580	159,180	207,250	+8,390	+5.6%	+0.5%	+48,070	+30%	1.1%
Population										
Project Area ^a	14,690	17,100	20,380	58,440	+5,690	+38.7%	+3.3%	+38,060	+187%	4.3%
Greater Downtown ^b	32,190	35,640	39,550	83,340	+7,360	+22.9%	+2.1%	+43,790	+111%	3.0%
City of Oakland	399,480	410,600	430,670	542,500	+31,190	+7.8%	+0.75%	+111,830	+26%	0.9%

NOTE: The 2035 scenario includes growth to be facilitated by the Proposed Amendments.

^a Estimates for the Project Area are approximated based on data for traffic analysis zones (TAZs) and estimated "splits" for those TAZs that straddle Project Area boundaries.

^b Greater Downtown or Central Oakland: area bounded by I-580, Lake Merritt and the Channel, Oakland Estuary, and I-980 and Market/Brush Street, as defined by TAZs.

^c ABAG *Projections 2007* and *2009*, and 2000 Census. Allocations within City based on Oakland Cumulative Growth Scenario Downtown Update, June 2006, and TAZ land use data in ACCMA Travel Model.

^d 2010 employment from ABAG *Projections 2009* to reflect current economic conditions. 2010 households and population from CA Department of Finance. Allocations within City based on Oakland Cumulative Growth Scenario Downtown Update and locations of recent housing developments from City of Oakland *Housing Element 2007-2014*.

^e 2035 from ABAG *Projections 2007*. Allocations within city based on ACCMA TAZ land use data and Oakland Cumulative Growth Scenario Downtown Update.

SOURCE: Hausrath Economics Group based on sources identified above.

In addition to its role as an employment center, downtown Oakland and the Project Area have become increasingly desirable as a location for higher-density housing. This is part of a larger trend back to urban living that has been attracting new residents downtown and creating new vitality for Oakland's central area.

Currently, there are approximately 10,800 households residing in the Project Area with a population of 20,400 residents. These households and residents represent about one-half of the population in greater downtown Oakland. Compared to the city overall, the greater downtown area includes about 14 percent of total households in Oakland and about nine percent of total city population. The population data are presented in Table 4.11-1.

Trends

The relative health of downtown Oakland today has greatly benefited from the ongoing efforts and investments of the City's Redevelopment Agency to address conditions of economic and physical blight and to support projects, programs, and expenditures that have facilitated downtown revitalization.

Business activity and employment in downtown Oakland and the Project Area are anticipated to continue to grow in the future, given the area's central location in the region, its good transportation accessibility, and its role and competitive position within the region's office market. Future growth also will depend on the Agency's continued role in facilitating redevelopment and revitalization downtown, particularly in helping to re-establish major regional retailing, to strengthen and expand cultural and entertainment activities, and to continue to attract the growth of office activities. After recovery from the national recession of the past several years, downtown employment has the potential to grow substantially over the longer term. Based on the citywide ABAG projections, employment in the Project Area and greater downtown overall is anticipated to increase by over 50 percent by 2035. Potentially, Project Area employment could increase to over 90,000 jobs by 2035 and employment in the total downtown area to 122,000 jobs (see Table 4.11-1). The Project Area and greater downtown are anticipated to continue to be major economic engines of the city's economy overall.

Housing and population in downtown Oakland and the Project Area also have the potential to grow substantially in the future. Strong regional housing demand, fewer remaining locations for development in the suburbs, renewed interest in center city living, and a relatively affordable land supply with favorable land use policies have all been factors supporting new housing development in downtown Oakland. The support of redevelopment activities would encourage the realization of such potentials and would assist in providing affordable residential development for households covering a range of income levels.

Since 2000, about 50 percent of the new housing developed in Oakland has been built in downtown, including approximately 4,700 of the 9,500 new units built and under construction in Oakland from 2000 through 2009. There are also a large number of units in already approved projects downtown that are currently on-hold. Since 2007, the major downturn in the housing market and the national economic recession have slowed the absorption of new units, reduced

housing prices, and stalled the development of additional new housing. New construction is unlikely to resume until the economy recovers and housing prices and rents return to levels that support feasible projects. There is still uncertainty about the timing for recovery, and it could take several more years before new construction is again feasible.

Once the market recovers, there is potential for substantial housing growth downtown and in the Project Area over the longer-term future. The ABAG projections for 2035 anticipate an increase of up to 21,000 households and 43,000 residents in greater downtown Oakland, with most of that growth anticipated in the Project Area (see Table 4.11-1). There will likely be substantial growth of housing, households, and population downtown even with somewhat less aggressive projections.

City of Oakland and the Region

Oakland is the third largest city in the Bay Area region and the largest city in the East Bay. Employment, housing, and population are projected to continue to grow in the future, bolstering Oakland's role as a centrally-located place of employment and place of residence within the large Bay Area region. Growth and revitalization in Oakland will continue to be supported by Redevelopment Agency efforts in 10 project areas throughout the city.

Business Activity and Employment

Employment in Oakland was estimated at 202,570 in 2005, representing about six percent of all employment in the region (see **Table 4.11-2**). Business activity and employment grew substantially in Oakland in the late 1990s and early 2000s, reflecting strong economic trends throughout the region and an enhanced market position for Oakland, particularly within the region's office market. While regional trends favored growth in the suburbs in prior decades, recent trends "back to the center" have now recognized the value of Oakland's central location, its good transportation/transit accessibility, and its relative affordability as a business location. These factors are anticipated to become increasingly important in the future, enabling Oakland to retain and enhance its competitive position as a business center for the region.

As the region's economy rebounds from the recent national recession, economic growth is forecast for the future. Projections for Oakland show growth of about 83,000 jobs from 2005 to 2035, at an annual average rate of 1.15 percent (see Table 4.11-2). Downtown Oakland is anticipated to remain strong and to grow as a major office center. Growth is anticipated to continue in the transportation-related sectors centered on the city's growing airport and seaport, and in medical and health services, in professional and personal services, and in manufacturing and wholesale activities in the city's industrial areas. Retail, restaurant, and entertainment activities also are anticipated to grow in Oakland as a result of citywide efforts to attract more retailing in Oakland and supported by the growth of housing and population throughout the City.

TABLE 4.11-2
TRENDS IN EMPLOYMENT, HOUSEHOLDS, AND POPULATION FOR OAKLAND, THE EAST BAY, AND BAY AREA REGION:
1990, 2000, 2005 AND 2035

	1990	2000	2005	2035	1990 – 2005		2005 – 2035		
					Growth	Annual Rate	Growth	Percent	Annual Rate
Employment									
Oakland	173,270	199,470	202,570	285,600	29,300	1.05%	83,030	41%	1.15%
Inner East Bay ^a	353,640	376,710	373,650	520,160	20,010	0.37%	146,510	39%	1.11%
Total East Bay ^b	953,580	1,121,470	1,109,030	1,691,200	155,450	1.01%	582,170	52%	1.42%
Total Bay Area	3,201,010	3,753,460	3,449,640	5,247,780	248,630	0.50%	1,798,140	52%	1.41%
Households									
Oakland	144,520	150,790	154,580	207,250	10,060	0.45%	52,670	34%	0.98%
Inner East Bay ^a	260,350	271,400	278,100	351,750	17,750	0.44%	73,650	26%	0.79%
Total East Bay ^b	779,810	867,500	912,100	1,155,300	132,290	1.05%	243,200	27%	0.79%
Total Bay Area	2,245,870	2,466,020	2,583,080	3,292,500	337,210	0.94%	709,450	27%	0.81%
Total Population									
Oakland	372,240	399,480	410,600	542,500	38,360	0.66%	131,900	32%	0.93%
Inner East Bay ^a	649,840	688,220	706,800	892,600	56,960	0.56%	185,800	26%	0.78%
Total East Bay ^b	2,080,430	2,392,560	2,528,700	3,239,200	448,270	1.31%	710,500	28%	0.83%
Total Bay Area	6,020,150	6,783,760	7,096,100	9,031,500	763,610	1.10%	1,935,400	27%	0.81%

^a Inner East Bay includes Oakland and nearby cities of Albany, Berkeley, Emeryville, Piedmont, Alameda, and San Leandro.

^b Total East Bay includes all of Alameda and Contra Costa counties, and total Bay Area includes all nine Bay Area counties.

SOURCE: U.S. Census; ABAG *Projections 2007*.

Population and Housing

Existing Conditions and Recent Trends

Currently, there are 430,670 people living in Oakland, about six percent of the total population of the Bay Area. The number of people occupying housing in the city (household population) totaled 423,410 in 2010, with an additional 7,260 people living in group quarters such as dormitories, group homes, nursing homes, shelters, correction facilities, etc. There were 159,180 households in Oakland in 2010 and an average household size of 2.66 persons per household. (California Department of Finance, 2010).

The 2000 Census identified 157,508 housing units in Oakland (see **Table 4.11-3**). Of the occupied housing units (150,790), 59 percent were renter-occupied and 41 percent owner-occupied. From 1990 to 2000, Oakland's housing stock increased by 2,771 units. However, the number of households in the city grew by 6,269 during the 1990s, reflecting increased occupancy of the existing housing stock, as the overall housing vacancy rate declined from 6.6 percent in 1990 to 4.3 percent in 2000 (see Table 4.11-3). The city's population increased by 27,240 residents during that period as a result of housing production, occupancy of vacant units, and an increase in the population in existing households.

**TABLE 4.11-3
CHANGES IN HOUSING STOCK IN OAKLAND, 1990-2010**

	1990		2000		2010		Change	
							1990-2000	2000-2010
Total Housing Units	154,737		157,508		166,274		+2,771	+8,766
Occupied Housing Units	144,521	93.4%	150,790	95.7%	159,182	95.7%	+6,269	+8,392
Vacant Housing Units	10,216	6.6%	6,718	4.3%	7,092	4.3%	(3,498)	+374
Owner-occupied Housing	60,153	41.6%	62,489	41.4%	N.A.		+2,336	N.A.
Renter-occupied Housing	84,368	58.4%	88,301	58.6%	N.A.		+3,933	N.A.

SOURCE: U.S. Census, 1990 and 2000; CA Dept. of Finance, 1/1/2010.

Since 2000, the city's housing supply has increased substantially with about 8,770 new units added in Oakland by the beginning of 2010 (see CA Department of Finance estimate in **Table 4.11-4**). This represents a significant change from prior decades during which very little new housing was developed in Oakland. In the 1970s and 1980s, housing development bypassed Oakland and other inner city areas in favor of the suburbs. In the 1990s, regional trends began to change. Household and population growth occurred in existing housing in Oakland; the vacancy rate declined and average persons per household increased. Most of the units added in Oakland during the 1990s were built in the latter part of the decade as the region's housing market began to rediscover Oakland. Since 2000, strong regional housing demand, fewer remaining locations for development in the suburbs, renewed interest in center city living particularly in proximity to employment centers, and a relatively affordable land supply with favorable land use policies were

**TABLE 4.11-4
HOUSING DEVELOPMENT AND HOUSEHOLD GROWTH IN OAKLAND**

	Housing Units		Occupied Units/Households	
	Growth	Average Annual Growth	Growth	Average Annual Growth
1990 – 2000				
U.S. Census 1990-2000	2,770	277	6,270	627
Since 2000				
Oakland Development, 2000-2005 ^a	4,307	749		
Oakland Development, 2006-mid 2009 ^b	<u>4,090</u>	1,169		
<i>Subtotal (9-1/4 yrs.)</i>	<i>8,397</i>	<i>908</i>		
Under Construction, 2009	<u>1,097</u>			
<i>Total (10-11 yrs.)</i>	<i>9,494</i>	<i>863-949</i>		
CA Dept. of Finance, 2000-2010 ^c	8,766	899	8,392	861

^a April 2000 (Census) through 2005, 5.75 years.

^b 2006 through mid-2009, 3.5 years.

^c Estimates of household growth April 2000 to January 1, 2010 (9.75 years).

SOURCE: Hausrath Economics Group; City of Oakland *Housing Element 2007-2014*; Oakland Cumulative Growth Scenario, June 2006 and July 2007; CA Department of Finance, 1/1/2010.

all factors in favor of renewed housing development in Oakland. In addition, new housing development has been encouraged in Oakland by regional and local Smart Growth land use policies and by other local efforts such as the 10K Initiative to attract new housing development and bring 10,000 additional residents to downtown Oakland.

During the recent decade from 2000 to 2010, housing development in Oakland has averaged about 900 units per year. Absorption of housing units by household growth appears to have averaged about 860 units per year. Both housing unit development and household growth represent increases over prior decades.

As identified in Oakland's Draft Housing Element, new housing is being built in Downtown Oakland (representing about one-half the new units built citywide 2000-2009) and in many other parts of the city, including West Oakland, East Oakland, North Oakland, and along the Estuary waterfront. Most of the new housing is multi-family housing. New housing development is focused in the downtown area, around the city's BART stations, along transit corridors, and in mixed-use neighborhoods. New housing in Oakland includes units covering a range of prices and rents, reflecting Oakland's land use policies encouraging higher-density development and the investment of substantial public funding for affordable housing.

In addition to the completed housing developments in Oakland, there are a large number of approved housing projects. As of mid-2009, there were over 8,600 units in approved projects that

were on hold pending recovery and improvement of the economy and housing market. There also were proposed housing projects in various stages of predevelopment planning at the City. The projects in predevelopment include an additional 9,000 housing units that could be built further in the future. In addition, Oakland's *Housing Element 2007-2014* identifies the potential for 10,380 to 13,070 additional units on housing opportunity sites in strategic areas of the city that are actively being promoted for housing development. **Table 4.11-5** summarizes the magnitudes of housing recently built, housing in the pipeline, and housing potential on opportunity sites in Oakland. About half of the housing development potential identified citywide is located in Downtown Oakland.

**TABLE 4.11-5
HOUSING DEVELOPMENT IN OAKLAND AND GREATER DOWNTOWN:
UNITS BUILT, IN THE PIPELINE, AND ON OPPORTUNITY SITES**

	City of Oakland	Greater Downtown	
	Housing Units	Housing Units	% of City
Built 2000 – mid-2009	8,400	4,094	49%
Under Construction, 2009	<u>1,100</u>	<u>622</u>	<u>57%</u>
Built and Under Construction	9,500	4,716	50%
Approved, as of mid-2009	8,630	2,782	32%
Proposed/Predevelopment, as of mid-2009	<u>9,000</u>	<u>3,620</u>	<u>40%</u>
Approved and Predevelopment	17,630	6,402	36%
Housing Opportunity Sites ^a	10,380-13,070	6,371-8,123	61-62%
Total	37,510-40,200	17,489-19,241	47-48%

^a Housing opportunity sites identified in the Oakland *Housing Element 2007-2014*. This was not an exhaustive inventory and focused only on strategic areas where the City is actively promoting development or assessing development capacity. Development potential over the long-term future through 2035, is larger than identified for the Housing Element given its shorter-term focus on eight years 2007-2014. The calculation of number of potential units for development on opportunity sites is below the maximum allowable under the General Plan and Zoning Ordinance and is based on typical densities for recent, actual developments.

SOURCE: Hausrath Economics Group; Oakland *Housing Element 2007-2014*; Oakland Cumulative Growth Scenario, June 2006 and July 2007.

Population and Household Projections

Long-term projections for Oakland indicate potentials for substantial growth of housing, households, and population. The ABAG projections anticipate growth of up to 48,000 households and 112,000 residents, from 2010 through 2035 (see Table 4.11-1). The ABAG projections reflect market factors as well as policy direction to increase the share of regional development that occurs in the Bay Area's major cities, in higher-density, urban locations that have good accessibility and are well served by transit. The rates of growth of households and population in Oakland are forecast to exceed the rates of growth for the East Bay and Bay Area overall (see Table 4.11-2).

Employed Residents and Jobs/Housing Relationship

Employed Residents and Where Oakland Residents Work

In 2000, 174,740 people living in Oakland were employed according to the U.S. Census, representing 56 percent of the working age population (the population 16 years of age and older)

and 92 percent of the civilian labor force (those 16 years of age and older working or looking for work.¹ In the future, the number of employed residents is anticipated to increase at a faster rate than the growth of population, due to the growth of higher-density new housing in Oakland with proportionally more adult residents in their working years and to regional demographic trends related to the overall aging of the population and higher labor force participation rates.

Census data indicate that in 2000, about 39 percent of the employed residents of Oakland held jobs in Oakland. Another 16 percent worked in nearby cities of the Inner East Bay, indicating that the majority (55 percent) of Oakland's employed residents work close to home, in Oakland and adjacent cities. Another 18 percent worked in San Francisco, and about 19 percent worked elsewhere in Alameda County outside the Inner East Bay and in Contra Costa County. The remaining eight percent worked in other locations, most in other Bay Area counties. (ABAG, 2000 Census.)

Oakland Jobs and Where People Working in Oakland Live

About 36 percent of the jobs in Oakland in 2000 were held by people who also lived in the city. Another 15 percent of jobs were held by residents of nearby cities in the Inner East Bay, indicating that over half (51 percent) of Oakland's jobs are held by residents of Oakland and its adjacent cities. Residents of other parts of Alameda County and Contra Costa County held another 31 percent of Oakland's jobs, San Francisco residents held about five percent, with the remaining 13 percent of jobs held by residents of other counties in the Bay Area, adjacent areas, and beyond.

Overall Relationship of Jobs and Housing

As described above, Oakland is both a place of residence and a place of employment. The total number of jobs in the city (202,570 in 2005) is relatively similar to the total number of employed residents (175,180 in 2005) (see **Table 4.11-6**). The overall relationship between jobs and employed residents in an area identifies the extent to which a community enjoys a balanced mix of land uses thereby offering job opportunities to local residents and housing opportunities for workers employed in local jobs. The resultant mix of who lives in Oakland and who works in Oakland and the extent to which these are the same individuals results from a complex set of interactions and decision factors that determine where people choose to live and work, how much they spend for housing, and their travel patterns. Jobs/housing balance evolves over time and reflects the role and location of particular areas within the larger regional context. Regional planning efforts in the Bay Area seek to "balance" the number of jobs and the number of employed residents, or to improve existing imbalances, for purposes of achieving goals related to improved housing availability and affordability, commute distances, congestion, and air quality.

¹ The 2000 demographic data for Oakland discussed in this and the next two paragraphs are from the U.S. Census for 2000. There is a small difference between the number of employed residents in Oakland in 2000 from the Census (174,740) and from ABAG *Projections 2007* (178,716). The data in Table 4.11-6 and related text include the ABAG data for Oakland for 2000, so as to be consistent with the ABAG projections for future years.

**TABLE 4.11-6
TRENDS IN JOBS AND EMPLOYED RESIDENTS: 1990-2035**

	1990	2000	2005	2035	1990-2005		2005-2035	
					Growth	Annual Rate	Growth	Annual Rate
Total Jobs								
Oakland	173,270	199,470	202,570	285,600	29,300	1.05%	83,030	1.15%
Inner East Bay ^a	353,640	376,710	373,650	520,160	20,010	0.37%	146,510	1.11%
Total East Bay ^b	953,580	1,121,470	1,109,030	1,691,200	155,450	1.01%	582,170	1.42%
Total Bay Area	3,201,010	3,753,460	3,449,640	5,247,780	248,630	0.50%	1,798,140	1.41%
Employed Residents								
Oakland	162,490	178,716	175,180	289,620	12,690	0.50%	114,440	1.69%
Inner East Bay ^a	312,070	332,135	325,490	509,410	13,420	0.28%	183,920	1.50%
Total East Bay ^b	1,053,430	1,171,549	1,165,500	1,848,800	112,070	0.68%	683,300	1.55%
Total Bay Area	3,147,610	3,452,117	3,225,100	5,016,500	77,490	0.16%	1,791,400	1.48%
Ratio Jobs-to-Employment Residents								
Oakland	1.07:1	1.12:1	1.16:1	0.99:1				
Inner East Bay ^a	1.13:1	1.13:1	1.15:1	1.02:1				
Total East Bay ^b	0.91:1	0.96:1	0.95:1	0.91:1				
Total Bay Area	1.02:1	1.09:1	1.07:1	1.05:1				
Employed Residents as Percent of Population								
Oakland	44%	45%	43%	53%				
Inner East Bay ^a	48%	48%	46%	57%				
Total East Bay ^b	51%	49%	46%	57%				
Total Bay Area	52%	51%	45%	56%				

^a Inner East Bay includes Oakland and nearby cities of Albany, Berkeley, Emeryville, Piedmont, Alameda, and San Leandro. Data and projections from ABAG, *Projections 2007*.

^b Total East Bay includes all of Alameda and Contra Costa counties, and total Bay Area includes all nine Bay Area counties. Totals are from ABAG, *Projections 2007*.

SOURCE: U.S. Census; ABAG, *Projections 2007*.

Data and projections for Oakland indicate that Oakland has a good balance of jobs and housing, and that it will continue to have a relatively similar number of jobs and employed residents. In the future, the growth of employed residents of the city (114,440 employed resident growth 2005 to 2035) is anticipated to exceed the growth of jobs in Oakland (83,030 job growth 2005 to 2035), improving the “balance” of jobs and housing over time, as shown in Table 4.11-6. By 2035, the number of employed residents is anticipated to be similar to and even exceed the number of jobs in Oakland (ratio of jobs to employed residents of 0.99:1 in 2035 under the ABAG projections). Data for the Inner East Bay, including Oakland and its nearby cities, show that this larger surrounding area will have a slightly higher ratio of jobs to employed residents than Oakland alone. Overall, data for the East Bay in total (all of Alameda and Contra Costa counties including the Inner East Bay) show more employed residents than jobs, both currently and in the future, indicating the important role of the East Bay as a place of residence for people employed in the East Bay and other parts of the region.

4.11.2 Contributions to Downtown and Citywide Growth from Proposed Amendments

This section describes and quantifies the potential growth in employment, households, and population that could occur in the Project Area during the proposed, additional 11 years of Central District Redevelopment (the extension period), and the share of that growth contributed by the Proposed Amendments. Population and employment changes in and of themselves, are not normally considered to be significant environmental effects under CEQA. However, these changes and effects can be indicators of other impacts, and they can have influence on the significance of those impacts. Thus, the description of population and employment changes that follows is included to provide context for considering and understanding potential physical environmental impacts associated with changes in employment, housing, and population that are analyzed later in this section and in other sections of this EIR (e.g., traffic, public services, and air quality). In addition, the description also identifies beneficial aspects of the Proposed Amendments in terms of increased business activity, greater employment opportunities, and expanded housing choices.

Potential Growth and Development in the Project Area

Proposed Amendments to extend the effectiveness period of the Central District Urban Renewal Plan would enable continuation of projects, programs, investments, and other activities that would eliminate blight remaining in the Project Area and facilitate downtown revitalization and growth. The Proposed Amendments also would support additional low- and moderate-income housing (affordable housing) in the Project Area.

Growth and development potentials for the Project Area during the extension period were identified based on approved and proposed development projects and plans, and assuming the Proposed Amendments. The assumptions are conservative for EIR purposes, as they reflect a large amount of growth relative to likely market development and absorption during the 11-year extension period. Potentially, the large amount of development could be initiated, and possibly facilitated by redevelopment activities during the extension period, and completed over the longer-term future.

Business Activity and Employment Growth

There is potential for substantial commercial growth and development downtown during the extension period. The potentials are anticipated to focus on:

- Major retail development as envisioned for the Valdez Triangle area of the Broadway/Valdez District Specific Plan currently under preparation.
- A new baseball park and surrounding commercial development as being planned at Victory Court, on a site in both the Central District and Central City East Redevelopment Areas.
- Major office development in the City Center area, in already approved projects with existing agreements with the Agency. These projects are on-hold, awaiting improvement of the economy and office market.
- Entertainment/retail development in the Uptown district, on a site owned by the Agency, on which a proposed project is currently under negotiation.

In total, these developments include 3.7 million square feet of commercial space and a 39,000-seat ballpark. Businesses and other activities in the developments would support employment of approximately 10,640 jobs at full occupancy. The estimates are presented in **Table 4.11-7**.

The facilitation and completion of these developments would meet several of the goals and objectives of the Central District Urban Renewal Plan and the Oakland General Plan. The developments would:

- Create a significant retail district for new comparison goods shopping downtown, re-establishing and strengthening the city's historic role for major retail shopping;
- Create a new ballpark with surrounding commercial activity to retain the A's in Oakland and strengthen the downtown's role as an entertainment center;
- Continue to strengthen the downtown's role as a major regional office center; and
- Further strengthen the Uptown District as an entertainment, retail, and cultural center.

Continuing redevelopment activities as a result of the Proposed Amendments would encourage and support all of the commercial developments identified above and in Table 4.11-7. In particular, the major retail development in the Valdez Triangle and the ballpark and commercial development in the Victory Court area would not be feasible without the support of redevelopment as would be enabled by the Proposed Amendments. The Uptown entertainment/retail project also could be facilitated by the Proposed Amendments and is assumed to be for purposes of this EIR. The major City Center office developments would likely be able to proceed without the Proposed Amendments, based on existing agreements with the Agency made prior to the expiration of the Redevelopment Plan in 2012. Thus, the commercial development and employment growth *most directly facilitated by the Proposed Amendments* (Valdez Triangle retail, Victory Court ballpark/commercial, and Uptown entertainment/retail) would include 2.09 million square feet of commercial space and the 39,000-seat ballpark, and would support business activity and employment growth of 5,340 jobs. (See Table 4.11-7, and developments with diamonds [♦] to indicate those that are unlikely to proceed without the Proposed Amendments.)

**TABLE 4.11-7
COMMERCIAL SPACE AND EMPLOYMENT GROWTH POTENTIALS
FOR PROJECT AREA DEVELOPMENT DURING EXTENSION PERIOD
WITH PROPOSED AMENDMENTS**

Potential Development	Commercial Space (square feet/seats)	Employment ^d
♦ Broadway/Valdez District, Major Retail Development in Valdez Triangle (Specific Plan Alt. 3) ^a		
- Major retail	810,000	1,800
- Related commercial, entertainment, services, office	297,000	800
- Hotel	<u>150,000</u>	<u>300</u>
	1,257,000	2,900
♦ Victory Court, Ballpark and Commercial Development ^b		
- Retail	180,000	300
- Office	540,000	1,662
- Ballpark	<u>39,000 seats</u>	<u>200</u>
	720,000 sq. ft.	2,162
	+39,000-seat ballpark	
♦ 1800 San Pablo ^c		
- Entertainment/Retail	110,000	275
♦ Subtotal – Development Due to Amendments	2,087,000 sq. ft.	5,337
	+39,000-seat ballpark	
City Center T-5/6 ^c		
- Office	600,000	2,000
- Retail	<u>7,500</u>	<u>25</u>
	607,500	2,025
City Center T-12 ^c		
- Office	600,000	2,000
- Retail	<u>95,000</u>	<u>211</u>
	695,000	2,211
1100 Broadway ^c		
- Office	310,000	1,033
- Retail	<u>10,000</u>	<u>29</u>
	320,000	1,062
Subtotal – Other Potential Development	1, 622,500 sq. ft.	5,298
Total	3,709,500 sq. ft.	10,635
	+39,000-seat ballpark	

NOTE: Developments identified with a ♦ (major retail in Valdez Triangle, Victory Court ballpark and commercial, and Uptown entertainment/retail) are unlikely to proceed without the Proposed Amendments. The other development could proceed without the Proposed Amendments based on existing agreements with the Agency.

^a Broadway/Valdez District Specific Plan Alternatives Analysis Report, December 2009.

^b City of Oakland, October/November 2010. Note that the development area for Victory Court is located in both the Central District and Central City East Redevelopment Project Areas.

^c City of Oakland, October/November 2010.

^d Employment estimated by Hausrath Economics Group, based on density factors by use, for the types of development proposed for downtown Oakland.

SOURCE: City of Oakland; Hausrath Economics Group.

Housing and Population Growth

There also is potential for substantial residential growth in the Project Area during the 10-year redevelopment extension period. The potentials include the following:

- Housing development in already approved projects throughout the Project Area. These projects are currently on-hold pending economic recovery of the housing market.
- Development of housing in proposed projects currently in predevelopment planning, located throughout the Project Area.
- New housing as envisioned for the Valdez Triangle area of the Broadway/Valdez District Specific Plan currently under preparation.
- New housing as being planned as part of the Victory Court development, on a site area in both the Central District and Central City East Redevelopment Areas.

In total, these developments include the potential for 5,481 new housing units to be developed in the Project Area during the extension period. The new units would accommodate approximately 5,260 households with 8,945 residents. The estimates of potential housing and population growth are presented in **Table 4.11-8**.

**TABLE 4.11-8
HOUSING DEVELOPMENT AND POPULATION GROWTH POTENTIALS
FOR PROJECT AREA DURING EXTENSION PERIOD
WITH PROPOSED AMENDMENTS**

Potential Development	Housing Units	Households ^e	Population ^f
♦ Broadway/Valdez District, Housing Development in Valdez Triangle (Specific Plan Alt. 3) ^a	752	722	1,228
♦ Victory Court Residential Development ^b	700	672	1,142
Other Approved Housing Projects ^c	1,485	1,426	2,424
Other Housing Projects in Predevelopment ^c	<u>2,544</u>	<u>2,442</u>	<u>4,151</u>
Total	5,481	5,262	8,945
♦ Affordable Housing Production Obligation ^d	822	789	1,341
Balance: Market-rate Housing	4,659	4,473	7,604

NOTE: Developments identified with a ♦ (Victory Court, Valdez Triangle major retail/mixed use, and 15 percent affordable housing production obligation) are unlikely to occur without the Proposed Amendments.

^a Broadway/Valdez District Specific Plan Alternatives Analysis Report, December 2009.

^b City of Oakland, October/November 2010. Note that the development area for Victory Court is located in both the Central District and Central City East Redevelopment Project Areas.

^c City of Oakland, October/November 2010, consistent with the City of Oakland *Housing Element 2007-2014*.

^d Under the extension of redevelopment, at least 15 percent of all housing development in the Project Area would be required to be affordable to persons and families of low- or moderate-income. Of these low-mod units, at least 40 percent must be affordable to persons and families of very-low income. The requirement would apply to the Central District overall and would have to be met over a 10-year period.

^e Assumes an average, four percent vacancy factor.

^f Assumes an average of 1.7 persons per household, appropriate for higher-density housing in downtown Oakland.

SOURCE: City of Oakland; Hausrath Economics Group.

The facilitation and completion of these developments would further the redevelopment objective of re-establishing residential areas within portions of the Project Area.

The new housing would expand housing choices available in Oakland, providing more higher-density housing in multi-family, downtown developments. Both ownership and rental housing are likely to be developed. As with other recent housing development downtown, residents of future new housing are anticipated to include smaller households with proportionally more adults and fewer children than average for housing citywide. A relatively high percentage of residents are anticipated to be employed, as downtown housing provides good proximity to places of employment in downtown Oakland, and good transit accessibility to employment centers in downtown San Francisco and other parts of the East Bay and surrounding Bay Area. New residents downtown are anticipated to include existing Oakland residents attracted by new downtown housing, as well as people new to Oakland.

Per California Community Redevelopment Law (CRL), approval of the Proposed Amendments to extend the Central District Urban Renewal Plan beyond its 40-year life would require that the Central District meet affordable housing production requirements during the additional 11-year extension period.² Under the CRL, there would be the obligation for at least 15 percent of all housing developed in the Project Area during the extension period to be affordable to persons and families of low- or moderate-income.³ Of these low-moderate units, at least 40 percent must be affordable to and restricted for occupancy by very-low income households. The housing production obligation would apply to the Central District overall, and would have to be met over a 10-year period. To the extent there is a deficit of affordable units constructed by the private and non-profit sectors, the Agency is to identify projects and, if necessary, provide financial assistance to ensure that the required number of affordable units are developed or otherwise made available.

Based on the potential number of up to 5,481 new housing units developed in the Project Area during the extension period, there could be a housing production obligation of up to 822 affordable units (15 percent of 5,481 units). Of these, up to 329 units would be required to be affordable to very-low income households. That would mean that up to 4,659 new units could be available at market-rate prices/rents, as summarized in Table 4.11-8.

The Proposed Amendments would continue redevelopment activities in the Central District, encouraging and supporting residential development throughout the Project Area. In particular, the Proposed Amendments would facilitate new housing as part of the Victory Court development, as that development is not likely to occur without the actions of redevelopment.

² The housing production obligation is set forth in the California Community Redevelopment Law (the CRL). Because the Central District Redevelopment Plan was adopted prior to 1976, the Agency has not been required to comply with this provision. However, the requirement would apply under the proposed SB 211 extension amendment.

³ It is anticipated that new housing developed in the Project Area will be private, unassisted and assisted development, as has been the case for other housing development downtown. Thus, the 15 percent affordable housing obligation would apply. If the Agency were to develop housing, the obligation would be for 30 percent affordable housing. However, the Agency does not plan to develop housing, but rather to assist in private sector affordable housing development, as appropriate.

Further, the housing included as part of major retail development in the Valdez Triangle would not be built as proposed under the Specific Plan Alternative 3 without the proposed extension of redevelopment. In addition, the development of 15 percent affordable housing in the Project Area also is unlikely to occur without the affordable housing production obligations associated with extension of the Redevelopment Plan, and without the financial assistance generated by redevelopment.⁴ The rest of the potential housing development would likely be able to proceed without the Proposed Amendments, once the housing market recovers and returns to conditions that support feasible development. Thus, Central District housing development *directly facilitated by the Proposed Amendments* plus the 15 percent affordable housing obligation would include up to 2,274 units (700 units in Victory Court, 752 units in the Valdez Triangle, and up to 822 affordable units) accommodating 2,183 households with 3,711 residents (see Table 4.11-8).⁵

Net Growth of Project Area Employment and Households

Project Area potentials for commercial, entertainment, and residential development and revitalization that are described above, would replace some existing uses currently in the area. **Table 4.11-9** summarizes the potential net changes in Project Area employment and households at full build-out of all of the potential developments. Overall, total, potential growth during the extension period would include a net increase of approximately 9,540 jobs and approximately 5,170 households with 8,770 residents in the Project Area.

Only a portion of that growth and development would be due directly to the Proposed Amendments, as described above. The net growth due to the Proposed Amendments, based on only the development that would otherwise not occur without the Proposed Amendments, would include a net increase of approximately 4,240 jobs and growth of approximately 2,090 households with approximately 3,530 residents in the Project Area. These amounts represent the employment and population growth that the Proposed Amendments would contribute to overall cumulative growth in the Project Area and downtown Oakland, as presented in Table 4.11-1 earlier in this section. Compared to the growth projections for 2010-2035, the Proposed Amendments would contribute about 12 percent of the employment growth and about nine percent of the population growth forecast for the Project Area. Compared to growth citywide for 2010-2035, the Proposed Amendments would contribute about four percent of employment growth and about three percent of population growth.

⁴ With the Proposed Amendments, the Agency would be required to allocate 30 percent of gross tax increment from the Project Area to affordable housing (the housing “Set-Aside”).

⁵ The number of units facilitated by the Proposed Amendments could be less than 2,183 units, to the extent that some of the affordable units are included in the Victory Court and Valdez Triangle developments. It also is possible that the affordable housing could be developed as market-rate housing without the Proposed Amendments.

**TABLE 4.11-9
POTENTIAL NET GROWTH OF PROJECT AREA EMPLOYMENT AND HOUSEHOLDS
DURING EXTENSION PERIOD, WITH PROPOSED AMENDMENTS**

	Space	Employment	Housing Units	Households	Population
Total Net Growth During 11-year Extension Period					
Potential New Development ^a	3,709,500 sf +39,000-seat ballpark	10,635	5,481	5,262	8,945
Existing Uses Potentially Removed ^b	737,720 sf	1,100	99	96	179
Net Change	2,971,780 sf +39,000-seat ballpark	9,535	5,382	5,166	8,766
Likely Growth Due to the Proposed Amendments					
Potential New Development:					
- Valdez Triangle - major retail	1,257,000	2,900	752	722	1,228
- Victory Court - ballpark, mixed-use	720,000	2,162	700	672	1,142
	+39,000-seat ballpark				
- 1800 San Pablo – entertainment/retail	110,000	275	-	-	-
- Affordable Housing Obligation	-	-	822	789	1,341
Existing Uses Potentially Removed:					
- Valdez Triangle ^c	380,220	660	96	93	171
- Victory Court ^d	357,500	440	3	3	8
Net Change Due to Amendments	1, 349,280 +39,000-seat ballpark	4,237	2,175	2,087	3,532

^a See Tables 4.11-7 and 4.11-8.

^b See details in next section of table.

^c Broadway/Valdez District Specific Plan Alternatives Analysis, December 2009. Estimates of employment and households prepared by Hausrath Economics Group for purposes of this assessment.

^d City of Oakland, October/November 2010. Employment estimates prepared by Hausrath Economics Group for purposes of this assessment; actual number of employees in space that could be removed is not known. Work/live units (3) are assumed to be occupied; the number of residents is not known and was estimated for purposes of this assessment.

SOURCE: City of Oakland; Hausrath Economics Group.

4.11.3 Regulatory Setting

Local Plans and Policies

Oakland General Plan and Housing Element policies and other applicable plans and policies that pertain to housing, jobs, and related effects, and that apply under the Proposed Amendments, are identified and discussed in Section 4.9 Land Use, Plans, and Policies.

Much of the consideration of compliance with local plans and policies is already addressed by the requirements of California redevelopment law (CRL). Under state law, the redevelopment plan and the activities of the agency must conform to the general plan of the community, including the community's housing element (which must comply with state planning and zoning law).

(Section 33367 (d)(4) of the CRL.) Thus, because the growth facilitated by the Proposed Amendments must conform to Oakland's General Plan and Housing Element, the Proposed Amendments would be consistent with the General Plan and Housing Element.

To adopt the Proposed Amendments to the Central District Urban Renewal Plan, Oakland's General Plan, including all of the mandatory elements, must be complete and conform to all of the requirements of state law. To extend the time limit on the effectiveness of the plan (the proposed SB 211 amendment), the law specifically requires that Oakland must have adopted a Housing Element that was determined to be in substantial compliance with state law by the California Department of Housing and Community Development (HCD).

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards

There are no City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards (SCAs) that are specific to Population, Housing, and Employment.

4.11.4 Impacts and Mitigation Measures

Significance Criteria

The Proposed Amendments would have a significant impact on the environment if they would:

- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere, in excess of that contained in the City's Housing Element.
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere, in excess of that contained in the City's Housing Element.
- Displace substantial numbers of businesses and jobs, necessitating the construction of replacement facilities elsewhere, in excess of that contemplated in the City's General Plan.
- Induce substantial population growth in a manner not contemplated in the General Plan, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads and other infrastructure), such that additional infrastructure is required but the impacts of such were not previously considered or analyzed.

The Proposed Amendments are evaluated relevant to the above criteria in the rest of this section.

Oakland General Plan and Housing Element policies, Redevelopment Plan policies, and California Community Redevelopment Law (CRL) are discussed in this section, as relevant to the significance criteria above. Oakland General Plan policies and other applicable plans and policies that may pertain to housing, jobs, and related effects are also addressed in Section 4.9 Land Use, Plans, and Policies.

Impacts

Displacement of Substantial Housing, Population, Businesses, or Jobs

Impact POP-1: Development facilitated by the Proposed Amendments could displace existing housing and residents, but not in substantial numbers necessitating the construction of replacement housing elsewhere, in excess of that anticipated in the City's Housing Element. (Less than Significant)

Development in the Project Area, as facilitated by the Proposed Amendments, could require the demolition of existing housing units. Based on current planning efforts, major retail development in the Valdez Triangle under the Broadway/Valdez District Specific Plan Alternative 3 and the Victory Court ballpark/mixed-use development now being planned would include some residential demolition.

- Potentially, 96 dwelling units could be removed for major retail, mixed-use development in the Valdez Triangle, as envisioned under Alternative 3 of the Broadway/Valdez District Specific Plan. The 2000 Census data identified that most units in that area are rental housing. Based on the 2000 Census occupancies, the 96 units could be occupied by approximately 170 people.
- Potentially, three work/live units could be removed to facilitate the Victory Court development (new ballpark with commercial and residential development). The number of residents in those units is not known, and has been estimated at eight people for the purposes of this assessment.

State and City Regulations for Removing Units from the Housing Market

There are State and City regulations governing the process for removal of housing by a redevelopment agency and for removal of rental housing by the private sector. These are described below. The regulations and required procedures would mitigate some of the potential impacts associated with displacement. Whether the procedures relevant to Agency activities or to the private sector would apply depends on the roles and responsibilities for each entity in the eventual developments. However, the specific roles for the Agency and the private sector in development of the Valdez Triangle and the Victory Court project are not yet known.

Agency Activities. To carry out the goals and objectives of the Redevelopment Plan, the Agency may acquire, assemble, and dispose of property that may result in the displacement of residents or businesses. In such instances, the Agency must comply with the applicable state and local relocation laws, including those set forth in the Central District Urban Renewal Plan (Section 700 G and H), the California Relocation Assistance Act (Government Code Section 7260 et seq.), and other state relocation regulations and guidelines. Prior to any significant displacement of residents or businesses in the Project Area as a result of activities undertaken by the Agency or under agreement with the Agency, the Agency would prepare a plan for the relocation of displaced residents or businesses which contains all of the elements required by law. Typically, the Agency will be required to: (1) inform persons to be displaced as early as possible and keep them informed throughout the process; (2) provide displaced occupants with advisory assistance in finding comparable replacement housing; (3) make relocation payments to displaced occupants for moving

expenses, direct losses of personal property, and additional payments as may be required by law; and (4) provide for the replacement of any units removed from the low- and moderate-income housing stock.

Private Sector Development. Development by the private sector that requires demolition of rental housing is subject to the Ellis Act (Government Code Sections 7060-7060.7) and the City of Oakland's Ellis Act Ordinance (Oakland Municipal Code Sections 8.22.400-8.22.480). Under that Ordinance, any owner can withdraw property from the rental market by filing with the City's Rent Adjustment Program a series of documents called the "Withdrawal Notices", including notices of termination given to existing tenants. The withdrawal of the units is effective after 120 days or is extended to one year for tenants who are disabled or 62 years of age or older. Under the Ordinance, lower-income households are entitled to relocation assistance of two months' rent in effect at the time of the notice of termination, to mitigate the adverse impacts of displacement. The Ordinance also gives the tenants the right to re-rent the withdrawn units should the units be re-offered for rent within 10 years.

In the case of owner-occupied housing that might be purchased and demolished for development, there are no filing or relocation procedures. The residents would receive the agreed-upon sales price for the housing, and would attempt to address relocation in the process of negotiating a sales price.

Relocation Implications for Residents

The people residing in housing units to be demolished would have to find other housing, potentially in nearby neighborhoods or in other parts of Oakland. There could be economic implications for the individuals involved. Households required to relocate would incur expenses associated with moving. However, those displaced by Agency activities would receive relocation assistance and payments as described above. Lower-income households in rental housing displaced by private sector development would be entitled to relocation assistance under the City's Ellis Act, as described above. For some, rents/prices could be higher at a new location, or the housing might be less desirable for similar rents/prices. Others, however, might find it beneficial to relocate, if they find preferable or improved housing that better meets their needs, in terms of location, unit size/quality, and/or rent/price.

Replacement Housing As Part of Citywide Housing Production

From the perspective of the City's housing stock, the loss of 99 housing units as a result of development facilitated by the Proposed Amendments could be offset by the production of a large amount of new housing in downtown and elsewhere in Oakland as has been occurring and is expected to occur in the future, consistent with the City's Housing Element. As described earlier in the setting, approximately 8,770 new units were added in Oakland from 2000 through 2009, with another 730 units still under construction as of the end of 2009 (see Table 4.11-4). About one-half of the new units were built in downtown Oakland and the Project Area. Another 8,630 new housing units could be built in Oakland once the market recovers from the recent downturn, in already approved projects, and an additional 9,000 units could be built in proposed projects already in the predevelopment planning process (see Table 4.11-5). As described in the previous section, there is the potential for 5,480 of the approved and proposed housing units to be built in

the Project Area during the 11-year extension period with the Proposed Amendments (see Table 4.11-8). At least 822 of those units would be affordable housing due to the Proposed Amendments. Over the longer-term future, the ABAG projections forecast substantial housing growth in Oakland, averaging about 2,000 units per year from 2010 through 2035.

The levels of housing development anticipated in Oakland are consistent with Oakland's Housing Element and the City's General Plan. The construction of replacement housing for the 99 units that could be removed as a result of the Proposed Amendments, would not be in excess of that anticipated in the City's Housing Element and related General Plan and zoning policies. Further, the Proposed Amendments would facilitate the development of up to 2,274 housing units, including up to 822 affordable units that would not otherwise be built (see Tables 4.11-8 and 4.11-9). Overall, the removal of 99 housing units would not represent "substantial" numbers in the context of a total of approximately 166,270 housing units in Oakland in 2010 (the majority of which are renter-occupied), and the construction of large numbers of housing units in the future as described above.

Mitigation: None Required.

Impact POP-2: Development facilitated by the Proposed Amendments could displace existing businesses and jobs, but not in substantial numbers necessitating construction of replacement facilities elsewhere, in excess of that anticipated in the City's General Plan. (Less than Significant)

Development in the Project Area that would be facilitated by the Proposed Amendments could require the demolition of existing commercial and industrial buildings/facilities. Businesses located in those facilities would be required to find new locations for their business operations. Based on current planning efforts, major retail/mixed-use development in the Valdez Triangle under the Broadway/Valdez District Specific Plan and the Victory Court ballpark/mixed-use development would include demolitions of existing commercial and industrial space.

- Development in the Valdez Triangle could require removal of about 380,220 square feet of commercial space as well as some areas used for parking (see **Table 4.11-10**). The commercial space has been used for auto dealerships, auto service businesses, commercial service businesses, and small retail/entertainment/office uses. Some of the auto-related space has been vacant since the downturn of the economy and cutbacks in the auto industry occurred several years ago. Business activities in the affected space are estimated to include about 660 jobs.
- Development of Victory Court is anticipated to remove about 358,000 square feet of industrial and commercial space as well as some outside yard space used for parking and storage (see Table 4.11-10). There are 16 establishments in the affected area involved in wholesale/warehouse activities, manufacturing of food and beverages, self storage, smaller office uses, and storage/truck yard parking. Business activities in the area are estimated to include about 440 jobs.

**TABLE 4.11-10
POSSIBLE COMMERCIAL AND INDUSTRIAL USES TO BE REMOVED FOR
NEW DEVELOPMENT FACILITATED BY THE PROPOSED AMENDMENTS**

Existing Land Uses	Space Removed (square feet)
Uses Potentially Removed for Major Retail Development in Valdez Triangle	
Auto Dealers	126,640
Auto Services	121,410
Commercial Services	69,980
Ground-floor Commercial in Mixed-use Buildings	28,370
Retail/Entertainment	21,710
Offices	<u>12,110</u>
Total Space	380,220 sq. ft.
Estimated Existing Employment^a	~660
Uses Potentially Removed for Victory Court Ballpark/Mixed-use Development	
Wholesale/Warehouse (may include retail component)	158,000
Manufacturing (food and beverages)	64,000
Self Storage	65,000
Warehouse/Storage/Yard	35,000
	+ outside yards
Offices, Restaurant	<u>35,500</u>
Total Space	357,500 sq. ft.
	+ outside yards
Estimated Existing Employment^a	~440

^a The number of employees in space that could be removed is not known and has been estimated for purposes of this assessment.

SOURCE: City of Oakland; Hausrath Economics Group.

Relocation Implications for Businesses

The specifics of the timing of new development and the relocation needs of individual businesses are not yet known, and are not addressed in this program-level EIR. However, possible relocation implications can be generally described for businesses that rent/lease space and those that own their properties, and for situations where the Agency may acquire properties for development. The relocation issues for *businesses that rent/lease space* to be acquired for new development would likely focus on locating comparable space at comparable rents, and covering the costs of relocation which can include expenses associated with searching for a new location, moving costs, and costs associated with getting re-established at a new location. Such costs can be particularly difficult for small businesses. Businesses with longer-term leases would receive compensation for early termination of those leases and may be able to address relocation costs in those negotiations.

Businesses that own their properties would attempt to address relocation in the process of selling their properties. The objective for owners would be to try and obtain a sales price for their existing property that would cover the costs of a replacement property and improvements as well as the costs of moving and becoming re-established at a new location. The most difficulty for owner-occupants is likely to be finding another property of comparable size and location that is available for purchase. There could be adverse economic implications of relocation for some businesses and

business owners, and there could be financial benefits in other cases, depending largely on sales prices for existing properties and ability to find comparable new business facilities and locations.

There is the *possibility that the Agency could acquire commercial/industrial properties*, through real estate negotiations or through the use of the powers of eminent domain as an option of last resort. If eminent domain were used, the Agency would have to comply with applicable relocation laws and requirements designed to assist displaced businesses. Relocation assistance to businesses could include help in finding a replacement location with a minimum of delay and loss of earnings, as well as monetary relocation payments for moving expenses, re-establishment expenses, personal property losses, and other costs pursuant to the California Relocation Assistance Act (Government Code Section 7260 et seq.), state relocation regulations and other applicable rules and regulations. As described in the previous assessment of displacement of housing, prior to any significant displacement of residents or businesses in the Project Area as a result of activities undertaken by the Agency or under agreement with the Agency, the Agency would have to prepare a relocation plan that sets forth the procedures for notification, relocation assistance, and relocation payments as required by law.

Replacement Facilities Elsewhere in Oakland

For Business Activity in Valdez Triangle. From the broader perspective of the supply of space for commercial business activity in Oakland, the loss of auto-related and other commercial space as a result of new development in the Valdez Triangle may be offset by increased occupancy of existing commercial space nearby and in other commercial areas and corridors in Oakland. While there has been a decline in auto industry activity along Broadway, the remaining viable auto dealers in the Triangle area may be able to relocate to nearby facilities along Broadway, north of 27th Street. The Broadway/Valdez District Specific Plan identifies the potential for retaining auto dealerships in the central parts of the District, just north of the Valdez Triangle. Other dealerships remain in that area, and there are vacant facilities there currently. In addition, City plans anticipate additional auto dealerships along I-880 in the vicinity of the Coliseum, where several new dealerships have recently located.

The most comparable locations for auto service businesses are in surrounding parts of downtown, North Oakland, and West Oakland, including locations along Telegraph Avenue, in the area between Telegraph and Broadway, along parts of West Grand Avenue, and along parts of San Pablo Avenue. There also could be location options in parts of East Oakland just east of downtown (i.e., along and in the vicinity of East 12th Street), and in the area west of the Jack London District between the I-880 freeway and the Estuary. Several of these commercial areas/corridors include auto-related uses and space for such uses as well as space appropriate for the types of service commercial, small office, and retail/personal service businesses that would relocate from the Valdez Triangle area. The General Plan and other City redevelopment plans seek to revitalize and increase activity along these other commercial corridors/areas. There also could be relocation options for the commercial service uses in more peripheral parts of downtown, such as in the vicinity of Webster and Harrison Streets, from 17th Street south to the freeway.

For Business Activity in Victory Court Area. The City's General Plan designates areas for industrial uses along the I-880 corridor and San Leandro Street in East Oakland, and there is land along the waterfront that remains in industrial use. There also are location options for lighter industrial and commercial uses along the I-880 corridor, between I-880 and the Estuary, and in parts of West Oakland, including areas nearer Emeryville, along parts of Mandela Parkway, and to west of the Jack London District between the I-880 freeway and the Estuary. Thus, businesses relocating from the Victory Court area may be able to find other locations in Oakland. Businesses seeking centrally-located facilities nearby could increase demand for new or newly renovated industrial space in Oakland, thereby supporting the modernization of older areas designated to remain industrial and/or designated for business mix uses in the City's General Plan. There also could be options for relocation outside of Oakland, including locations along the I-880 Corridor in San Leandro or Hayward/Union City, along the I-80/580 corridors in Richmond, and possibly in nearby Alameda/Harbor Bay Isle for some uses.

Summary. Thus, the displacement of existing businesses and jobs from the Project Area would not necessitate construction of replacement facilities in excess of that anticipated in the City's General Plan. Further, while displacement of businesses with about 1,100 jobs is noteworthy, that does not represent "substantial" numbers in the context of about 60,000 jobs in the Project Area and a total of about 189,000 jobs citywide in 2010.

Mitigation: None Required.

Inducement of Substantial Population Growth, Including Consideration of Indirect and Cumulative Project Effects

Impact POP-3: Development facilitated by the Proposed Amendments individually and in combination with past, present, existing, approved, pending, and reasonably foreseeable future projects would not induce substantial population growth in a manner not contemplated in the General Plan, either directly by facilitating new housing or businesses, or indirectly through infrastructure improvements, such that additional infrastructure is required but the impacts of such were not previously considered or analyzed. (Less than Significant)

Cumulative Context

As discussed in Section 4.11.1, the analysis throughout this section considers the Project Area and downtown Oakland, as well as a citywide and regional context. This represents the cumulative geographic context for the cumulative analyses presented throughout this section. Cumulative development includes those in the Major Projects List in Appendix B to this Draft EIR, and discussed in Section 4.07.2, *Cumulative Context*, in the front of Chapter 4 of this Draft EIR.

Impacts

Housing and Population Growth

Housing development facilitated by the Proposed Amendments could add up to 2,175 housing units in the Central District Project Area, and accommodate growth of up to approximately 2,090 households and 3,530 residents downtown. These totals include housing in development facilitated by the Proposed Amendments plus the 15 percent affordable housing obligation that would be required with the Proposed Amendments.

The growth of households and population due to the Proposed Amendments would contribute to population growth expected in Oakland in the future. The amount of population growth anticipated because of the Proposed Amendments would account for about three percent of total population growth projected for Oakland between 2010 and 2035, as shown in **Table 4.11-11**. When compared to *total* population anticipated in Oakland in 2035, the Proposed Amendments would have contributed less than one percent (0.7 percent). Thus, the Proposed Amendments would not result in “substantial” population growth in comparison to the amount of population growth and the total population anticipated for Oakland in the future.

**TABLE 4.11-11
POPULATION AND EMPLOYMENT GROWTH FACILITATED
BY THE PROPOSED AMENDMENTS COMPARED TO FUTURE PROJECTIONS FOR OAKLAND**

	Population	Employment
Growth Due to Amendments ^a	3,530	4,240
Growth in Oakland, 2010-2035 ^b	111,830	97,000
Amendment-related as Percent of City Growth	3%	4%
Total for City of Oakland, 2035 ^b	542,500	285,600
Amendment-related as Percent of City Total	0.7%	1.5%

^a See Table 4.11-9.

^b ABAG, *Projections 2007*. See Table 4.11-1.

SOURCE: ABAG; Hausrath Economics Group.

Population growth in the Project Area was anticipated in Oakland’s General Plan, and is supported and encouraged by General Plan Land Use and Housing Element policies and City zoning regulations. Downtown Oakland is a strong location for development of higher-density infill housing in proximity to downtown employment and regional transportation/transit facilities. Increasing the population downtown through new downtown housing is a key component of the vision for downtown in the General Plan. The City’s 10K Housing Program was initiated by former Mayor Jerry Brown to bring 10,000 more residents downtown. As one of its objectives, the Central District Urban Renewal Plan identifies the re-establishment of residential areas for all economic levels within portions of the Project Area.

The Proposed Amendments would result in affordable housing development as a result of the affordable housing requirements under California redevelopment law (the CRL). As described

above and earlier in this section, 15 percent of total new housing units built in the Project Area during the extension period must be affordable to households of low- or moderate-income. With the Proposed Amendments, the Agency also would be required to allocate 30 percent of gross tax increment revenues from the Project Area to affordable housing (the housing “set-aside”). It is likely that most of the housing set-aside during the extension period could be required to provide financial assistance for meeting the Agency’s 15 percent affordable housing production obligation, given the potential for a large amount of housing development in the Project Area in the future. If some of the housing set-aside were available for other affordable housing beyond the 15 percent obligation, such funds could be used for additional affordable housing either inside or outside the Project Area. Thus, it is possible that some additional affordable housing (beyond the 822 units assumed under the housing production obligation) could be built in the Project Area or elsewhere in Oakland as a result of the Proposed Amendments. If so, the additional affordable housing could be built in residential areas and locations identified for housing in the City’s General Plan Land Use and Housing Elements.

Business and Employment Growth

Commercial development facilitated by the Proposed Amendments would add 1.35 million square feet of commercial space and a 39,000-seat ballpark, and would support business and employment growth of 4,240 jobs in the Project Area. This increase in employment would contribute to employment growth expected in Oakland in the future. The amount of employment growth anticipated because of the Proposed Amendments would account for about four percent of total employment growth projected for Oakland between 2010 and 2035 (see Table 4.11-11). When compared to *total* employment anticipated for Oakland in 2035, the Proposed Amendments would contribute about one to two percent (1.5 percent). Thus, the Proposed Amendments would not result in “substantial” employment growth in comparison to the employment growth and total employment anticipated for Oakland in the future.

The major retail and ballpark/mixed-use developments to be facilitated by the Proposed Project would also bring visitors, patrons, and shoppers to the Project Area. Their spending would support the businesses and employees to be located in the new developments. There also could be some additional spending, such as for eating and drinking and services, that would support businesses in nearby parts of downtown.

Employment growth in the Project Area has been anticipated in Oakland’s General Plan, and is supported and encouraged by General Plan Land Use policies and by the City’s Economic Development Strategy and related policies and activities. A key component of the General Plan’s vision is support for growth of downtown Oakland as a major employment center. Downtown Oakland is identified as a major regional commercial center for Oakland and the surrounding East Bay. Its roles include being a major regional office center, being a center for the arts and entertainment in Oakland, and providing major destination shopping opportunities for residents. For many years, City economic development and redevelopment activities have been focused on strengthening and expanding the downtown’s role in each of these areas. The objectives of the Central District Urban Renewal Plan, originally adopted in 1969, include the following:

- Strengthening the Project Area's existing role as an important office center for administrative, financial, business service, and government activities.
- Revitalizing and strengthening the Central District's historic role as the major regional retail center for the Metropolitan Oakland Area.
- Establishment of the Project Area as an important cultural entertainment center.

The Proposed Amendments would facilitate development in support of each of these long-standing objectives for the Project Area.

Job-Induced Population Growth

Employment growth in development facilitated by the Proposed Amendments would support the growth of households and population to provide the additional workers. The housing development facilitated by the Proposed Amendments, however, would accommodate additional workers, equivalent to about 50 to 60 percent of the additional jobs. Cumulatively, citywide growth of employed residents in Oakland is projected to exceed the growth of jobs over time (thereby improving the relationship of jobs and housing, as shown in Table 4.11-5). Thus, cumulatively, the substantial growth of housing and population anticipated to occur throughout the city could accommodate the number of additional workers due to the Proposed Amendments as well as the number of additional workers associated with other cumulative job growth. Housing in downtown including that in the Project Area will represent a large share of the housing to be built in Oakland in the future (about 44 percent as shown by the household growth in Table 4.11-1).

Infrastructure-Induced Growth

The Proposed Amendments would facilitate urban infill development and the intensification of activity in a central downtown location well-served by existing transportation/transit systems and other infrastructure and utilities. Unlike commercial and residential development at an alternative location on vacant land in an outlying part of the region, the development facilitated by the Proposed Amendments would occur in an already developed urban area and would not require construction or extension of new roads, utilities, and other infrastructure that might stimulate population growth in previously undeveloped areas.

The development facilitated by the Proposed Amendments could require on-site infrastructure improvements to accommodate redevelopment to higher densities and for new uses. The infrastructure improvements would be specific to the development sites and would not induce substantial additional population growth in other areas.

Summary

Therefore, due to: (a) the role of the Proposed Amendments in facilitating development that fulfills key components of the General Plan's vision for Downtown Oakland and that meets the objectives of the Central District Urban Renewal Plan, (b) the relatively small magnitude of Proposed Amendment-induced population and employment growth within the cumulative, citywide context, (c) the overall balance of growth of both jobs and housing anticipated in Oakland in the future,

and (d) the Project Area's location within Oakland's already developed CBD, the Proposed Amendments would have a less than significant impact in inducing substantial population growth in a manner not anticipated by the General Plan, either directed by facilitating development of housing or businesses, or indirectly through infrastructure improvements.

Mitigation: None Required.

4.11.5 References

Association of Bay Area Governments (ABAG), *Projections 2007*.

Association of Bay Area Governments (ABAG), *Projections 2009*.

Association of Bay Area Governments (ABAG), Selected Census 2000 data for the San Francisco Bay Area web site, www.bayareacensus.ca.gov/place/Oakland.xls, accessed April-May 2005.

California Department of Finance (DOF), Demographic Research Unit, E-5 City/County Population and Housing Estimates, 1/1/2010.

City of Oakland, *Envision Oakland: City of Oakland General Plan, Land Use and Transportation Element*, March 1998.

City of Oakland, *Housing Element 2007-2014*, Adopted December 2010.

City of Oakland and Hausrath Economics Group, Oakland Cumulative Growth Scenario as updated, June 2006 and July 2007.

McDonough, Holland & Allen, *Redevelopment in California*, 2009.

Oakland Redevelopment Agency, Central District Redevelopment Project, First Amended and Restated Five-Year Implementation Plan 2009-2014.

Oakland Redevelopment Agency, *Central District Urban Renewal Plan*, Adopted June 12, 1969, As Amended Up to June 20, 2006.

U.S. Census Bureau, homepage web site, www.census.gov/; American FactFinder web site: http://factfinder.census.gov/home/saff/main.html?_lang=en; and <http://censtats.census.gov/data/CA/1600653000.pdf>; accessed July 2004-May 2005.

WRT and Consultant Team, *Broadway/Valdez District Specific Plan Alternatives Analysis Report*, December 2009.

4.12 Public Services and Recreation Facilities

This section describes existing public services and facilities in the Project Area. It also evaluates the potential impact of development facilitated by the Proposed Amendments on the delivery of public services, and possible adverse physical impacts on the environment that could result from a need to provide new or physically altered facilities. As necessary, appropriate SCA are identified. The analysis reviews police services, fire protection and emergency medical response, public schools, and parks and recreational facilities.

4.12.1 Environmental Setting

Police Services

The Oakland Police Department (OPD), headquartered at 455 7th Street in downtown Oakland in the southern portion of the Project Area, provides police services in the City (OPD, 2010b). The Eastmont substation at 2671 73rd Avenue also provides police services. The Police Department is currently budgeted for 637 officers and employs 660 sworn police officers and employs a civilian staff of 312 persons. The City is geographically divided into 57 community policing beats and 35 patrol beats. Neighborhood service coordinators are civilian employees who serve as a liaison between the community and the Police Department, and work with residents, businesses, schools, and other institutions to set priorities and develop strategies to improve public safety and reduce crime. Each neighborhood services coordinator handles multiple patrol beats.

The Project Area is primarily located within patrol beats 01X, 03X, 03Y, 04X, and 08X. These beats comprise the area bounded by the Oakland Estuary to the south, I-980 to the west, a combination of 39th Street and I-580 to the north, and Orange Street / Lake Merritt / the Lake Merritt Channel to the east. A small portion of the Project Area is also located in beat 19X to the east of the channel (OPD, 2008).

All emergency and non-emergency calls for police services are received through the Police Department's communications center located at 1701 Edgewater Drive. Calls for fire and medical services are routed to the Oakland Fire Department for dispatching. Priorities for responding to police calls are set by a computer-aided dispatch system that may be overridden by dispatchers. Police officers are dispatched from the police communications center by radio and/or laptop computers mounted in police vehicles (OPD, 2010b).

There were 1,592 violent crimes, including 252 shootings and 24.5 homicides, per 100,000 population in 2009 (OPD, 2010a). Generally, the more dense neighborhoods between I-880 and I-580, including the Project Area, report higher rates of violent crimes than areas north of I-580 (OPD, 2010a).

The Police Department's response times to calls for police services are recorded for the City of Oakland as a whole; the Police Department does not track response times for individual service areas. Response times generally reflect the perceived seriousness of the call. The Police Department

ranks incoming calls for police services as follows: Priority 1 means imminent danger of death or serious injury, felonies in progress, or serious public health hazards; Priority 2 refers to disputes with potential for violence, misdemeanor crimes in progress, stolen vehicle reports, and similar matters; and Priority 3 calls are reports of incidents that do not present danger to life or property. In 2009, OPD on average responded to Priority 1 calls in 14.8 minutes, 71 minutes for Priority 2 calls, and 148.3 minutes for Priority 3 calls. These response times did not meet Oakland's goals of 5 minutes for Priority 1 calls, between 10 and 15 minutes for Priority 2 calls, and 30 minutes for Priority 3 calls (OPD, 2010a).

Fire Protection and Emergency Medical Services

The Oakland Fire Department (OFD) provides fire protection services and emergency medical services throughout the City. OFD operates 25 fire stations, including the Airport. The Department maintains 24 engine companies with approximately four personnel per engine, four truck companies with four personnel per truck, and three truck companies with five personnel per truck. Total Operations Division staffing consists of 500 uniformed personnel. The actual number of assigned personnel per station depends on the needs of that station. All personnel are trained as Paramedics or Emergency Medical Technicians (OFD, 2009).

There are four fire stations within the Project Area, listed below. Stations 4, 5 and 10 are also within close proximity and could provide fire suppression or protection services, based on the nature of the emergency (OFD, 2010).

- Fire Station 1 at 1605 Martin Luther King Jr. Way, in the eastern portion of the Project Area;
- Station 2, at 100 Jack London Square, at the southern end of the Project Area;
- Fire Station 12 at 822 Alice Street, centrally located in the Project Area
- Fire Station 15 at 455 27th Street, at the northern end of the Project Area.

In addition to firefighting and emergency medical response capabilities, the Fire Department also has a hazardous materials unit that operates from Station 3 at 1445 14th Street and responds citywide to emergencies involving hazardous materials (OFD, 2009).

The Oakland Fire Department Dispatch Center (FDDC) is located in downtown Oakland and is responsible for fire and medical emergency coordination and response. The FDDC receives approximately 58,000 calls for response annually, of which 80 percent are medical in nature (OFD, 2009). The Fire Department's response time goal is seven minutes or less, 90 percent of the time.

Public Schools

School Facilities and Attendance

The Oakland Unified School District (OUSD) operates the public school system in the City of Oakland. The OUSD administers 77 elementary schools, 19 middle schools, one junior high school, 31 high schools, and two K-12 schools. It is also responsible for three alternative schools,

two special education schools, three continuation schools, three community day schools, and one opportunity schools (Ed-data, 2010).

The Project Area is primarily located within District 3 of the OUSD. In addition, blocks located roughly between 14th Street to the north, Broadway to the west, and I-880 to the south are located in District 2 (OUSD, 2010b). Schools in the area include the following:

- Westlake Middle School, at 2639 Harrison Street
- Lincoln Elementary School at 225 11th Street

Street Academy Alternative School of Choice is directly north of the Project Area at 417 29th Street. Also, Dewey Academy Continuation School, La Escuelita Elementary School, and Metwest Alternative School of Choice are located outside the Project Area to the east. Across I-980 to the west are Lafayette Elementary School and, Martin Luther King, Jr., Elementary School. The Downtown Education Project, currently under construction at Second Avenue and Tenth Street, will house La Escuelita Elementary School, MetWest High School, and Yuk Yau and Central Infantil Child Development Centers. Construction is estimated to be completed in 2013.

The District's overall enrollment peaked in 1999 at 55,000, dropping to 39,000 by 2007. Enrollment continued to decline by more than 3,000 students, and it is projected to continue to decline (OUSD, 2005; 2010a).

The Leroy F. Greene School Facilities Act of 1998, or Senate Bill 50 (SB 50), authorizes school districts to levy developer fees to finance the construction or reconstruction of school facilities. In January 2010, the State Allocation Board (SAB) maintained Level 1 Fees at \$0.47 per square foot of enclosed and covered space in any commercial or industrial development and \$2.97 per square foot for residential development (SAB, 2010). These fees are intended to address the increased educational demands on the school district resulting from new development. Public school districts can, however, impose higher fees than those established by the SAB, provided they meet the conditions outlined in the act. Private schools are not eligible for fees collected pursuant to SB 50.

Parks and Recreational Facilities

The City of Oakland's Office of Parks and Recreation manages the City's parks and recreation centers within the city boundaries. Oakland's Public Works Agency maintains the park facilities. Oakland has approximately 5,219 acres of parkland, including 1,118 acres that are within the East Bay Regional Parks District (EBRPD), which is around 12.9 acres of parkland per 1,000 residents, based on a population of 404,155. Oakland also has 73 playgrounds, resulting in 1.8 playgrounds per 1,000 residents. The Office of Parks and Recreation employs a staff of 608, or about 15 workers for every 1,000 residents (Trust for Public Land, 2010).

Oakland's parks are categorized by size and intended service area. Generally, local-serving parks "meet the active recreational needs of the community" surrounding the park, rather than the City as a whole (Oakland, 1996). Parks within the Project Area are Jefferson Square Playground, at Jefferson Street and 7th Street; Lafayette Square at Jefferson Street and 11th Street; Preservation

Park along 13th Street west of Martin Luther King Jr. Way; Adams Park at Grand Avenue and Harrison Street; Frank Ogawa Plaza at Broadway and 14th Street; the Lake Merritt Shoreline Park along 12th and 14th Streets and Lakeside Drive; Peralta Park at the Lake Merritt Channel; Lincoln Park at Harrison Street and 11th Street; Madison Park at Madison Street and 9th Street; Harrison Square at Harrison Street and 7th Street; Uptown Park at 19th between Telegraph and San Pablo Avenue, and Estuary Park south of 1st Street at the channel (OPR, 2010). The Central Planning area (not fully coterminous with the Project Area) has 1.65 acres of local serving parks per 1,000 residents. This is below the City's adopted standard for local park space is 4.0 acres per 1,000 residents, as stated in the General Plan (1996).

The EBRPD, although responsible primarily for acquiring and developing regional parks, open spaces, and regional trails throughout the East Bay, also provides open space and recreational facilities within Oakland's city limits. EBRPD parks in Oakland include the 271-acre Leona Canyon Regional Open Space Preserve, the 1,220-acre Martin Luther King, Jr. Regional Shoreline Park, the 660-acre Robert Sibley Volcanic Regional Preserve, and the 100-acre Roberts Regional Recreational Area (Trust for Public Land, 2010).

The City's Office of Parks and Recreation also operates several community-based centers located throughout City. The centers offer various public recreation, programs, including sports, arts and crafts, culture arts and dance, computer lab, drama, mentoring, general learning, and after-school activities. OPR plays with a purpose and the purpose is to "expose, enlighten, empower, and encourage education excellence through recreational services." Within the Project Area are the Lincoln Square Recreation Center at 250 10th Street, as well as the Malonga Casquelourd Center for the Arts at 1428 Alice Street (OPR, 2010).

4.12.2 Regulatory Setting

Local Plans and Policies

City of Oakland General Plan

Policies contained in the Oakland General Plan pertain to the various public services and recreation:

- *Policy N.12.1:* The development of public facilities and staffing of safety-related services, such as fire stations, should be sequenced and timed to provide a balance between land use and population growth, and public services at all times.
- *Policy N.12.2:* Adequate public school capacity should be available to meet the needs of Oakland's growing community. The City and the Oakland Unified School District (OUSD) should work together to establish a continuing procedure for coordinating residential and commercial development and exploring the imposition of mutually agreed upon reasonable and feasible strategies to provide for adequate school capacity. The City and OUSD should jointly consider, where feasible and appropriate, funding mechanisms such as assessment districts, redevelopment Agency funding (AB1290), uses of surplus City-owned land, bond issues, and adjacent or shared use of land or school facilities with recreation, libraries, child care and other public uses.

- *Policy N.12.5:* In its capital improvement and public service programs, the City should give priority to reducing deficiencies in, and disparities between, existing residential areas.
- *Policy FI-1:* Maintain and enhance the city's capacity for emergency response, fire prevention and fire fighting.
- *Policy REC-3.1:* Use level of service standards of 10 acres of total parkland and 4 acres of local-serving parkland as a means of determining where unmet needs exist and prioritizing future capital investments.
- *Policy REC-3.3:* Consider a range of factors when locating new parks or recreational facilities, including local recreational needs, projected operating and maintenance costs, budgetary constraints, surrounding land uses, citizen wishes, accessibility, the need to protect or enhance a historic resource, and site visibility.
- *Policy REC-10.2:* To the extent permitted by law, require recreational needs created by future growth to be offset by resources contributed by that growth. In other words, require mandatory land dedication for large-scale residential development and establish a park impact fee for smaller-scale residential development projects, including individual new dwelling units. Calculate the dedication or fee requirement based on a standard of 4 acres of local-serving parkland per 1,000 residents.

In addition, the park and recreation portion of the OSCAR Element contains the following principles applicable to the development facilitated by the Proposed Amendments:

- A park should be available within walking distance of every Oakland resident. No person should have to travel too far from home to gain access to recreational services.
- Recreation needs created by new development should be offset by resources contributed by that growth. In other words, new development should pay its fair share to meet the increased demand for parks resulting from that development.

The National Recreation and Park Association has developed the following method to calculate what is best for the individual city or community. The new guidelines address three particularly important social changes in the last decade:

- the need to accommodate different cultures;
- the need to include citizen opinion in the process;
- the identification of the wellness movement.

Most significantly, though, is a fourth change: the establishment of level of service standards (LOS) and the recognition that the residents of each community should be given the right to determine the size and use of land set aside for parks and recreation facilities

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

The City of Oakland's SCA relevant to reducing impacts on public services due to the development facilitated by the Proposed Amendments are listed below. If the Amendments are approved by the City, then all applicable SCA would be adopted as conditions of approval and

required of the projects facilitated by the Proposed Amendments to help ensure less-than-significant impacts to public services.

- **SCA 4: Conformance with other Requirements**

Prior to issuance of a demolition, grading, P-job, or other construction related permit for a project constructed pursuant to the Redevelopment Plan

- a. The project applicant shall comply with all other applicable federal, state, regional and/or local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Building Services Division, the City's Fire Marshal, and the City's Public Works Agency. Compliance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in SCA 3, *Scope of This Approval, Major and Minor Changes*.
- b. The applicant shall submit approved building plans for project-specific needs related to fire protection to the Fire Services Division for review and approval, including, but not limited to automatic extinguishing systems, water supply improvements and hydrants, fire department access, and vegetation management for preventing fires and soil erosion.

- **SCA 71: Fire Safety Phasing Plan**

Prior to issuance of a demolition, grading, and/or construction and concurrent with any p-job submittal permit for a project constructed pursuant to the Redevelopment Plan, the project applicant shall submit a separate fire safety phasing plan to the Planning and Zoning Division and Fire Services Division for their review and approval. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. Fire Services Division may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase.

4.12.3 Impacts and Mitigation Measures

Significance Criteria

Development facilitated by the Proposed Amendments would have a significant impact on the environment if it were to:

1. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:
 - Fire protection;
 - Police protection;
 - Schools; or
 - Other public facilities.
2. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or

3. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Approach to Analysis

The increases in population and land use intensity that would be facilitated by the Proposed Amendments were evaluated based on the web-based information regarding the various public services agencies with jurisdiction over the Project Area and their service capabilities, service ratios, response times, performance objectives, etc. Additionally, the development facilitated by the Proposed Amendments was evaluated for conformity with the goals, objectives and policies of the General Plan related to public services and recreation.

Impacts

Police Services Impacts

Impact PSR-1: Development facilitated by the Proposed Amendments could result in an increase in calls for police services, but would not require new or physically altered police facilities in order to maintain acceptable performance objectives. (Less than Significant)

New construction facilitated by the Proposed Amendments would increase development intensity and overall density in and around the Project Area, but specifically in the area of the projects described in Chapter 3, *Project Description*. This related population increase could result in an increase in reported crimes. However, adherence to General Plan Policies N.12.1 and N.12.5, described above, by the City during review of individual development projects would reduce the potential for project-related service deficiencies. Further, individual projects, when they are proposed, would be subject to project-specific environmental review to assess their potential impacts to police facilities and performance objectives. Therefore, development facilitated by the Proposed Amendments would not result in an increased demand for police services such that new or physically altered police facilities would be required, the construction of which could have significant environmental effects. As such, the development facilitated by the Proposed Amendments would have a less-than-significant impact on police services.

Mitigation: None Required.

Impact PSR-2: Development facilitated by the Proposed Amendments could result in an increase in calls for fire protection and emergency medical response services, but would not require new or physically altered fire protection facilities in order to maintain acceptable performance objectives. (Less than Significant)

The increase in development intensity and overall density in and around the Project Area would result in an increase in demand for fire protection and emergency services, especially in the areas of the new projects described in Chapter 3. Adherence to General Plan Policies N.12.1, N.12.5, and FI-1, as well as the SCA described above, by the City during review of individual

development projects would reduce the potential for service deficiencies and related impacts. Further, individual projects, when they are proposed, would be subject to project-specific environmental review as needed and appropriate, to assess their potential impacts. As such, it is anticipated that the Proposed Amendments would have a less-than-significant impact on fire protection and emergency medical response services.

Mitigation: None Required.

Public Schools Impacts

Impact PSR-3: Development facilitated by the Proposed Amendments could result in new students for local schools, but would not require new or physically altered school facilities to maintain acceptable performance objectives. (Less than Significant)

The Proposed Amendments would not directly provide new residential, commercial, or industrial uses. Therefore, it would not directly generate new student enrollment through increased residential units, or indirectly generate students through increased employment at commercial or industrial uses, in OUSD. It is possible, however, that projects facilitated by the Proposed Amendments could increase residential unit count or employee population within the Project Area, thereby potentially increasing student enrollment at local schools. These new students would be added to the district-wide enrollment incrementally over the entirety of the Proposed Amendments period. Additionally, new students would be distributed among the schools both within and near the Project Area, thereby reducing substantial enrollment impacts to any one school.

Given the continuing, and projected continued, declining student enrollment in OUSD schools, the district would have adequate capacity within its existing facilities to accommodate new students generated by projects constructed pursuant to the Redevelopment Plan. Moreover, development facilitated by the Proposed Amendments requiring discretionary review would be subject to CEQA as needed and appropriate, and their impacts to public school facilities would be analyzed at the project-specific level. At that time, adherence to General Plan Policy N.12.2, described above, would reduce the potential for impacts to school facilities associated with increased enrollment.

Pursuant to Senate Bill 50 (SB 50), applicants for individual development projects facilitated by the Proposed Amendments would be required to pay school impact fees established to offset potential impacts from new development on school facilities. Therefore, although new development facilitated by the Proposed Amendments could indirectly increase resident populations and potential student enrollment in Oakland, payment of fees mandated under SB 50 is the mitigation measure prescribed by the statute, and payment of such fees is deemed full and complete mitigation. Therefore, no additional mitigation would be required.

Mitigation: None Required.

Recreation Impacts

Impact PSR-4: Development facilitated by the Proposed Amendments could increase the use of existing neighborhood and regional parks, but not to the extent that substantial physical deterioration of the facilities would occur or be accelerated. (Less than Significant)

The Proposed Amendments would facilitate development that would increase residential population in the Project Area. These additional residents would increase demand for, and use of, neighborhood parks within the Project Area, as well as regional parks serving the East Bay area. As stated above, the Central Planning area of the City current has about 1.65 acres of local parkland per 1,000 residents, which is below the 4.0-acres per 1,000 residents standard. Growth and development facilitated by the Proposed Amendments would generate an increased demand for existing and new parkland, which would be incremental over the entire period of the plan's effectiveness. New demand would be concentrated within proximity of the development projects listed in Chapter 3, *Project Description*.

Adherence to General Plan Policies 3.1, 3.3, and 3.10, described above, would reduce potential impacts to recreational facilities. In addition, as stated in Chapter 3, the Proposed Amendments would also facilitate the development of parks and open spaces, thereby accommodating some of the increased residential and worker population in new, expanded, or upgraded facilities. Individual projects would be required to undergo subsequent environmental review as needed and appropriate, at which time project-specific impacts to the parkland ratio would be determined, and projects may be modified to meet some of the anticipated demand. Some of these projects could be required to provide new recreational resources to avoid disrupting conflict with the above General Plan Policies and avoid the accelerated deterioration of existing resources.

The construction of new recreational resources facilitated by the Proposed Amendments as mitigation for individual projects will be analyzed subsequently at the project-specific level, as needed.

The impact would be less than significant.

Mitigation: None Required.

Cumulative Impacts

Impact PSR-5: Development facilitated by the Proposed Amendments, in combination with other past, present, existing, approved, pending, and reasonably foreseeable future projects within and around the Project Area, would result in a cumulative increase in demand for police, fire, and school services. (Less than Significant)

Geographic Context

The cumulative geographic context for public services and recreation considerations for the activities facilitated by the Proposed Amendments consists of the Project Area in addition to all areas of the city since public services and recreation facilities are provided citywide.

Impacts

Cumulative development within the Project Area boundaries, combined with cumulative development (which considers those projects in the Major Projects List in Appendix B to this Draft EIR, and discussed in Section 4.07.2, *Cumulative Context*, in the front of Chapter 4 of this Draft EIR), would increase demand for police and fire protection services. These developments, however, would provide additional tax revenue and other development fees that would go toward paying for increased public services. Individual projects would be analyzed for their potential project-specific impacts to this demand. Adherence to the General Plan policies listed under Impacts PSR-1 and PSR-2 would reduce the potential for significant impacts. In combination with projects facilitated by the Redevelopment Plan Amendments, cumulative development would result in a less-than-significant cumulative impact on police and fire services.

Regarding schools, as stated above under Impact PSR-3, OUSD has experienced substantially decreased enrollment over the decade, and enrollment is anticipated to continue decreasing. In addition, pursuant to Senate Bill 50 (SB 50), individual project applicants would be required to pay school impact fees established to offset potential impacts from new development on school facilities. The Downtown Education Complex, which is under construction near the Lake Merritt Channel, will provide a modern facility for two district schools serving students living in the Project Area. Considering the previously approved new educational facilities in the project vicinity and declining enrollment trends and forecasts, the Proposed Amendments, in combination with past, present and reasonably foreseeable future projects, would not result in the need for new or physically altered school facilities and the impact would be less than significant.

Mitigation: None Required.

Impact PSR-6: Development facilitated by the Proposed Amendments, in combination with other past, present, existing, approved, pending, and reasonably foreseeable future projects within and around the Project Area, would result in an increased demand for recreational facilities. (Less than Significant)

As stated above, the City's goal is to provide 10 acres of total parkland and 4 acres of local-serving parkland per 1,000 residents, and the Central Planning area currently has 1.65 acres of local parkland per 1,000 residents. The Proposed Amendments would facilitate population growth, which would be combined with other growth in the vicinity to further reduce the 1.65-acre ratio. The growth in the vicinity could result from projects included in the Major Projects List in Appendix B to this Draft EIR, and discussed in Section 4.07.2, *Cumulative Context*, in the front of Chapter 4 of this Draft EIR. Therefore, growth facilitated by the Proposed Amendments, in combination with other past, present, and reasonably foreseeable future projects in the Project Area and vicinity, would contribute to a cumulatively considerable deficit of local-serving parkland per resident. Environmental review for the construction of new park and recreation facility expansion, either facilitated by the Proposed Amendments or required as mitigation for individual projects, would be conducted on a project-specific basis as needed and appropriate.

This would ensure that services to accommodate current and future growth could be reasonably provided within the cumulative context.

The Redevelopment Agency's adherence to the General Plan policies 3.1, 3.3, and 3.10, described above, would reduce the potential impacts of projects facilitated under the plan. Therefore, the effect of the development facilitated by the Proposed Amendments, in combination with other foreseeable development, would not be cumulatively significant.

Mitigation: None Required.

4.12.4 References

- Ed-data, District Profile, Oakland Unified, <http://www.ed-data.k12.ca.us/AudienceTracking/Registration.asp?>, 2010.
- Oakland, *General Plan*, 1996.
- Oakland Office of Parks and Recreation (OPR), 2010 Spring/Summer Brochure, 2010.
- Oakland Fire Department (OFD), Map of Oakland California Fire Stations, <http://www.ww6or.com/OAKFIRE.HTM>, accessed December 1, 2010.
- OFD, Website: <http://www.oaklandnet.com/fire/>, 2009. Accessed December 1, 2010.
- Oakland Police Department (OPD), Police Service Areas & Beats, January 2008.
- OPD, *Strategic Plan Working Draft*, August 2010a.
- OPD, *Summary of Part 1 Crime Offense, 1969 – 2008*, 2009.
- OPD, Web site: <http://www2.oaklandnet.com/Government/o/OPD/a/contact/index.htm>, accessed December 1, 2010.
- Oakland Unified School District (OUSD), *Annual Report 2008*, 2008.
- OUSD, *Multi-Year Fiscal Recover Plan*, 2005.
- OUSD, Our Challenges and Goals, web page: <http://publicportal.ousd.k12.ca.us/199410102104342143/site/default.asp?>, 2010b
- OUSD, 2010–2011: OUSD District Locations, 2010a.
- State Allocation Board (SAB) Meeting Actions, 2010. <http://www.cashnet.org/news/article.esiml?id=1368>, *Developer Fee Adjustment*. January 28.
- Trust for Public Land and Center for Park Excellence, 2010. *2010 City Park Facts*.

4.13 Transportation and Circulation

This section describes the transportation, circulation, and parking conditions, including transit services and pedestrian and bicycle facilities in the Project Area and its vicinity, and provides an analysis of the potential impacts of the development that would occur under the Proposed Amendments. **Figure 4.13-1** shows the location of development facilitated by the Proposed Amendments and the local and regional street system. The analysis was conducted in compliance with City of Oakland and Alameda County Transportation Commission (ACTC), formerly known as Alameda County Congestion Management Agency (ACCMA), guidelines.

In a programmatic environmental review, the cumulative impacts of a series of independent projects or actions are evaluated. As discussed in Section 4.07.2, *Cumulative Context*, in the front of Chapter 4 of this Draft EIR, cumulative development considers the ACCMA travel demand model, which reflects traffic from projects citywide and the broader regional context. Because the specific uses, and exact size and location of the development projects anticipated under the Proposed Amendments are not known, a more general review of potential impacts on transportation and circulation was undertaken. This EIR analyzes project impacts on 30 roadway segments (26 arterial segments and four freeway segments) that are likely to be affected by development facilitated by the Proposed Amendments. These roadway segments consist of arterials within the Project Area, and roadways providing access to the Project Area.

The analysis evaluates the traffic-related impacts of development facilitated by the Proposed Amendments during both the weekday morning and evening peak hours, for the following six scenarios:

- **Existing** – Represents existing conditions with volumes obtained from recent traffic counts and the existing roadway system.
- **Existing Plus Project** – Existing conditions plus projected traffic generated by development facilitated by the Proposed Amendments.
- **Cumulative Year 2015 No Project** – Future conditions with planned population and employment growth and planned transportation system improvements for the year 2015. This scenario assumes no traffic growth at Project Area opportunity sites. Traffic projections were developed using the most recently available version of the Alameda Countywide Travel Demand Model provided by the ACCMA (ACCMA Model).
- **Cumulative Year 2015 Plus Project** – Future forecasted conditions for the year 2015, as determined in the Cumulative Year 2015 No Project scenario, plus projected traffic generated by development facilitated by the Proposed Amendments.
- **Cumulative Year 2035 No Project** – Future conditions with planned population and employment growth and planned transportation system improvements for the year 2035. This scenario assumes no traffic growth at Project Area opportunity sites. Traffic projections were developed using the ACCMA Model.
- **Cumulative Year 2035 Plus Project** – Future forecasted conditions for the year 2035, as determined in the Cumulative Year 2035 No Project scenario, plus projected traffic generated by development facilitated by the Proposed Amendments.



SOURCE: Fehr & Peers

Proposed Amendments to the Central District Urban Renewal Plan . 210505.01

Figure 4.13-1
Project Location Map and Study Area

4.13.1 Environmental Setting

The existing transportation-related context in which development facilitated by the Proposed Amendments would be developed is described below, beginning with a description of the study area and the street network in the Project Area and vicinity. Existing transit service, and bicycle and pedestrian facilities are also described. Roadway level of service is then defined and current conditions summarized. This subsection also discusses planned transportation improvements in the project vicinity as well as the applicable planning policies.

Study Area

Traffic operations at 30 roadway segments in the Project Area and vicinity (listed below) were evaluated during the weekday morning (AM) and evening (PM) peak periods under Existing, 2015 and 2035 conditions (*Italics* – Indicates locations within the downtown area).

- | | |
|---|--|
| 1. 5th Street west of Broadway (<i>one-way eastbound</i>) | 15. Grand Avenue between Harrison Street and I-580 |
| 2. 6th Street west of Broadway (<i>one-way westbound</i>) | 16. 27th Street west of Harrison Street |
| 3. 7th Street east of Mandela Parkway | 17. <i>Embarcadero east of Oak Street</i> |
| 4. 7th Street west of Clay Street (<i>one-way eastbound</i>) | 18. Embarcadero east of 5th Avenue |
| 5. 8th Street west of Broadway (<i>one-way westbound</i>) | 19. San Pablo Avenue north of West Grand Avenue |
| 6. 7th Street east of Fallon Street | 20. Broadway north of Grand Avenue |
| 7. 11th Street west of Broadway (<i>one-way eastbound</i>) | 21. <i>Broadway north of 8th Street</i> |
| 8. 11th Street west of Oak Street (<i>one-way eastbound</i>) | 22. Harrison Street north of Grand Avenue |
| 9. 12th Street west of Broadway (<i>one-way westbound</i>) | 23. <i>Jackson Street north of 7th Street</i> |
| 10. 12th Street west of Oak Street (<i>one-way westbound</i>) | 24. <i>Madison Street north of 8th Street (one-way southbound)</i> |
| 11. East 12th Street east of 5th Avenue | 25. <i>Oak Street north of 8th Street (one-way northbound)</i> |
| 12. 14th Street west of Oak Street | 26. 5th Avenue south of East 12th Street |
| 13. 14th Street west of Broadway | 27. Franklin Street south of 20th Street |
| 14. West Grand Avenue west of Martin Luther King Way | 28. Webster Street south of 20th Street |
| | 29. SR 260 (Posey and Webster Tubes) at Oakland City Limit |
| | 30. I-880 at 16th Avenue overcrossing |
| | 31. I-880 between I-980 and Market Street |
| | 32. I-980 at 14th Street overcrossing |

These roadway segments, as shown on Figure 4.13-1 were selected because they are the major roadways in the Project Area or provide access to the Project Area, and are most likely to be adversely affected by development facilitated by the Proposed Amendments.

Existing Roadway Network

Regional access to the Project Area is provided by I-880, I-980, I-580, SR 24, and SR 260, while local access is provided via San Pablo Avenue, Broadway, Harrison Street, 27th Street, Grand Avenue, 14th Street, and Embarcadero. The street system is generally a grid system in the study area. This analysis assumes that Oakland hills are in the north and the Bay is in the south. Thus, Broadway and other parallel roadways are oriented north-south, while I-880 and other parallel roadways are oriented east-west.

Major roadways in the study area are described below.

- **Interstate-880 (I-880)** is an eight-lane east-west freeway on the south side of the Project Area that connects I-80 in Emeryville to I-280 and SR 17 in San Jose. I-880 has an average annual daily traffic (AADT) volume of about 204,000 vehicles just south of I-980 (Caltrans, 2010). Interchanges at 5th Avenue, Oak Street, Jackson Street, Broadway, and Market Street provide access to the project study area.
- **I-980** is an eight-lane north-south freeway on the west side of the Project Area that connects SR 24 and I-580 to I-880. I-980 has an AADT of about 76,000 vehicles just north of I-880 (Caltrans, 2010). Ramps at 11th/12th, 14th, 17th and 27th Streets provide access to the project study area.
- **I-580** is an eight-lane east-west freeway between U.S. 101 in Marin County, and I-5 near Tracy. I-580 is north of the Project Area and has an AADT of about 174,000 vehicles per day just south of I-980/SR 24 (Caltrans, 2010). The Oakland Avenue/Harrison Street and Lakeshore Avenue/Grand Avenue Interchanges provide access to the project study area.
- **State Route 24 (SR 24)** is an eight-lane east-west freeway west of the Project Area that connects to I-980 at the junction with I-580 and continues to Contra Costa County through Caldecott Tunnel. SR 24 has an AADT of about 151,000 vehicles just north of I-580 (Caltrans, 2010).
- **SR 260 and SR 61** (Webster Street and Posey Tubes, respectively) are a one-way couplet connecting Alameda and downtown Oakland under the Oakland Inner Harbor. Each tube provides two lanes in each direction. The AADT is about 47,500 vehicles at the Oakland portals (Caltrans, 2010).
- **San Pablo Avenue** is a major north-south arterial connecting downtown Oakland with points north along San Francisco Bay and Carquinez Bridge. San Pablo Avenue provides two travel lanes in each direction in the project study area.
- **Broadway** is a major north-south arterial between Jack London Square in the south and SR 24 in the north. Broadway varies in width from four to six lanes in project study area.
- **Webster Street and Harrison Street** are north-south collectors providing access between the Webster and Posey Tubes, downtown Oakland, and I-580. South of 10th Street, Webster Street and Harrison Street operate as a one-way couplet, with northbound Harrison Street (continuing from Posey Tube) and southbound Webster Street (continuing into the Webster Tube). In the project study area, both Harrison and Webster Streets generally provide four lanes. North of 10th Street, Harrison Street becomes a two-way street connecting with I-580 at the Oakland Avenue/Harrison Street Interchange; Webster Street remains one-way southbound, operating as a one-way couplet with Franklin Street.

- **Madison Street and Oak Street** are north-south collectors providing access between Jack London Square, I-880, and the Lake Merritt area. Madison and Oak Streets operate as a one-way couplet in the east part of project study area, with southbound Madison Street and northbound Oak Street. Both streets provide four travel lanes.
- **27th Street** is a six-lane, east-west road that extends from San Pablo Avenue to Harrison Street.
- **Grand Avenue/West Grand Avenue** is a four-lane major road extending from West Oakland to downtown Oakland and the City of Piedmont.
- **14th Street** is an east-west street connecting West Oakland to downtown Oakland and East Oakland. East of Lake Merritt, 14th Street becomes International Boulevard and continues to San Leandro. In the project study area, 14th Street provides two travel lanes in each direction.
- **11th Street and 12th Street** are east-west collectors providing access between West Oakland to downtown Oakland and East Oakland. Eleventh and 12th Streets operate as a one-way couplet in downtown Oakland, with eastbound 11th Street and westbound 12th Street. Both streets provide four travel lanes.
- **Embarcadero** is a two-lane east-west street along the Estuary connecting Jack London Square and 23rd Avenue.

Existing Transit Service

Public transportation in the study area includes Alameda-Contra Costa Transit District (AC Transit), Bay Area Rapid Transit (BART), Amtrak, ferry service, and shuttle service along Broadway. **Figure 4.13-2** shows existing transit service in the study area. Each service is described below.

AC Transit

AC Transit is the primary bus service provider for 13 cities and adjacent unincorporated areas in Alameda County and Contra Costa County with Transbay service to destinations in San Francisco, San Mateo and Santa Clara counties. Seventeen local routes, three Transbay routes, and three night-service routes operate in the project study area. **Table 4.13-1** summarizes the characteristics of the AC Transit routes operating in the project study area.

BART

BART is the regional rapid transit provider and connects the project study area and its surroundings to other parts of Alameda County, Contra Costa County, San Francisco, and northern San Mateo County. The BART system operates trains along five routes: (1) Richmond-Fremont; (2) Richmond-Daly City; (3) Millbrae-Dublin/Pleasanton; (4) Daly City-Pittsburg/Bay Point; and (5) Fremont-Daly City. Three BART Stations are located within the project study area: 12th Street Oakland City Center, 19th Street, and Lake Merritt.



**TABLE 4.13-1
AC TRANSIT SERVICE SUMMARY**

Line	Route	Weekday		Weekend		Weekday Daily Boardings ^a
		Hours	Headway	Hours	Headway	
Local Routes						
1	Berkeley BART to Bay Fair BART	5:10 AM to 1:00 AM	15 to 20 minutes	5:00 AM to 1:00 AM	20 to 25 minutes	11,130
1R	Berkeley BART to Bay Fair BART (Rapid)	5:30 AM to 8:15 PM	15 minutes	7:30 PM to 7:00 PM	15 to 20 minutes	12,340
11	Dimond District, Oakland to Estates Drive/Inverleith Terr.	6:00 AM to 8:40 PM	30 minutes	7:30 AM to 8:45 PM	60 minutes	1,880
12	Berkeley BART to Downtown Oakland	6:00 AM to 10:40 PM	20 to 30 minutes	5:50 AM to 10:40 PM	30 minutes	2,130
14	Downtown Oakland to Fruitvale BART	5:00 AM to 10:50 PM	15 to 30 minutes	6:20 AM to 10:45 PM	30 minutes	3,020
18	University Village, Albany, to Montclair	5:15 AM to 12:45 AM	15 to 30 minutes	6:00 AM to 12:50 AM	15 to 30 minutes	7,490
20	Dimond District, Oakland to Downtown Oakland	5:00 AM to 12:20 AM	30 minutes	5:00 AM to 12:20 AM	30 minutes	2,520
26	Emery Bay Public Market to Lakeshore Ave./Wala Vista Ave.	6:00 AM to 11:00 PM	20 minutes	6:00 AM to 11:00 PM	20 to 30 minutes	1,460
31	Alameda Point to MacArthur BART	6:00 AM to 10:50 AM	30 minutes	6:00 AM to 10:50 AM	30 minutes	1,780
40	Downtown Oakland to Bay Fair BART	5:10 AM to 12:30 AM	10 to 20 minutes	5:20 AM to 12:30 AM	15 to 30 minutes	9,140
51A	Rockridge BART to Fruitvale BART	5:00 AM to 12:40 AM	10 to 20 minutes	5:15 AM to 12:30 AM	15 to 20 minutes	10,850
58L	Oakland Amtrak to Eastmont Transit Center	6:50 AM to 7:15 PM	30 minutes	No Weekend Service		780
62	West Oakland BART to Fruitvale BART	5:30 AM to 1:00 AM	20 to 30 minutes	5:30 AM to 1:00 AM	30 minutes	3,340
72	Hilltop Mall to Oakland Amtrak	5:00 AM to 1:20 AM	30 to 40 minutes	5:10 AM to 1:30 AM	30 minutes	3,840
72M	Point Richmond to Oakland Amtrak	4:45 AM to 12:30 AM	30 to 40 minutes	5:30 AM to 1:10 AM	30 to 40 minutes	3,820
72R	Contra Costa College to Jack London Square (Rapid)	6:00 AM to 8:15 PM	10 to 15 minutes	No Weekend Service		6,880
88	Berkeley BART to Lake Merritt BART	5:15pm to 10:45pm	20 minutes	5:20 AM to 10:45PM	30 minutes	2,380
Transbay Service						
NL	Eastmont Transit Center to San Francisco Transbay Terminal	5:00 AM to 12:50 AM	30 minutes	5:00 AM to 12:50 AM	30 minutes	N/A
O	Fruitvale BART to San Francisco Transbay Terminal	5:00 AM to 10:45 AM	30 to 60 minutes	5:00 AM to 10:40 AM	60 minutes	1,610
W	Alameda to San Francisco Transbay Terminal	5:45 AM to 9:20 AM (WB); 4:10 PM to 8:40 PM (EB)	20 to 30 minutes	No Weekend Service		450

**TABLE 4.13-1 (Continued)
AC TRANSIT SERVICE SUMMARY**

Line	Route	Weekday		Weekend		Weekday Daily Boardings ^a
		Hours	Headway	Hours	Headway	
Night Routes						
800	Richmond BART to San Francisco	12:10 AM to 6:20 AM	60 minutes	12:30 AM to 6:30 AM (SAT); 12:00 AM to 9:20 AM (SUN/HOL)	30 minutes	N/A
802	Berkeley Amtrak to Downtown Oakland	12:10 AM to 5:30 AM	60 minutes	12:10 AM to 5:30 AM	60 minutes	90
851	Downtown Berkeley to Alameda	12:00 AM to 6:00 AM	60 minutes	12:00 AM to 5:50 AM	60 minutes	90

^a Based on data collected by AC Transit in April through July 2010, and provided in October 2010. Data represents total daily boardings along the entire route.

N/A = Data not available

SOURCE: AC Transit as summarized by Fehr & Peers, November, 2010

Table 4.13-2 summarizes the daily and peak-hour boardings and alightings at the three Project Area BART Stations. The 12th Street Oakland City Center Station is the busiest BART Station in the project study area with over 26,000 total riders accessing the system on typical weekdays. The 19th Street and Lake Merritt Stations have about 19,000 and 12,000 weekday daily riders, respectively.

**TABLE 4.13-2
NUMBER OF PASSENGERS USING BART STATION (WEEKDAY)**

	AM Peak Hour (7:30 to 8:30)	PM Peak Hour (5:00 to 6:00)	Total Daily
12th Street Oakland City Center Station			
Entries	618	2,843	13,068
Exits	2,733	762	13,065
Total ^a	3,351	3,605	26,133
19th Street Station			
Entries	523	2,225	9,673
Exits	2,223	599	9,472
Total ^a	2,746	2,823	19,144
Lake Merritt Station			
Entries	676	671	5,957
Exits	718	716	6,130
Total ^a	1,393	1,387	12,087

^a Does not include passengers transferring between lines at the platform level.

SOURCE: April 2008 data provided by BART and summarized by Fehr & Peers.

Table 4.13-3 shows average peak-hour load factors for trains at the 12th Street Oakland City Center BART Station. Currently, the majority of BART lines passing through the Project Area stations during the peak hours operate at or above their total capacity when accounting for both seated and standing room.

**TABLE 4.13-3
BART LOAD FACTORS (12th STREET BART STATION)**

Line	Total Capacity (Passengers/Car) ^a	Maximum Load Peak Hour	Maximum Load (Passengers/Car)	Load Factor ^b
Richmond to Millbrae	92	8:00 AM	141	1.53
Millbrae to Richmond	92	6:00 PM	118	1.28
Pittsburg to Millbrae	92	8:00 AM	86	0.93
Millbrae to Pittsburg	92	5:00 PM	114	1.23
Richmond to Fremont	92	5:00 PM	75	0.82
Fremont to Richmond	92	8:00 AM	102	1.11

^a Total capacity includes 67 seated and 25 standing passengers

^b **Bold** indicates maximum load above capacity where capacity is defined as 92 passengers

SOURCE: April 2008 data provided by BART and summarized by Fehr & Peers.

Amtrak

Amtrak provides inter-city rail service throughout California and the country. The Oakland Jack London Station is at 245 Second Street (between Jackson Street and Alice Street). The station provides a 115-space parking lot. The station operates from 5:15 AM to 11:00 PM seven days per week. The Oakland Jack London Station is served by the following routes:

- The Capitol Corridor, which operates more than 20 trains per day between San Jose and Sacramento/Auburn
- San Joaquin intercity, which operates four trains per day in each direction to Bakersfield via Modesto and Fresno
- Coast Starlight, which operates one train per day in each direction between Los Angeles and Seattle.

In addition, Amtrak provides connecting bus service between the Oakland Jack London Square and San Francisco.

Table 4.13-4 summarizes the annual ridership for the Amtrak routes serving the Oakland Jack London Station. The Capitol Corridor route is currently the route with the highest ridership at the Oakland Jack London Station.

**TABLE 4.13-4
AMTRAK ANNUAL RIDERSHIP**

Route	2009 Annual Ridership (passengers)
Capitol Corridor	1,600,000
San Joaquin	930,000
Coast Starlight	32,700

SOURCE: *Amtrak Annual Report*, 2006-2009.

Ferry Service

The Clay Street Terminal provides weekday and weekend ferry service. The Water Emergency Transportation Authority (WETA) operates the Alameda/Oakland ferry service that connects Jack London Square to the Alameda Ferry Terminal, the San Francisco Ferry Building, and Pier 41 near Fisherman's Wharf. The ferry also provides seasonal service to the AT&T Park ballpark and Angel Island.

The service provides free validated parking for up to 12 hours for passengers who park in the Washington Street garage, and free transfers to and from the terminals on AC Transit and San Francisco Muni buses.

The weekday service operates between 6:00 AM and 9:25 PM with one-hour headways during the peak periods, and about two-hour headways during off-peak periods. The weekend service operates between 10:00 AM and 7:10 PM about every 90 minutes to two hours. About 1,300 weekday riders used the Alameda/Oakland ferry service in 2007/2008.¹

Broadway Shuttle

The Free B Broadway Shuttle provides free shuttle service along the Broadway corridor, between Jack London Square and Grand Avenue. The shuttle connects major destinations such as Jack London Square, City Center, and Upton with major transportation services such as BART, AC Transit, Amtrak, the Ferry Terminal and Greyhound. The Shuttle operates on weekdays from 7:00 AM to 7:00 PM, except on major holidays. The shuttle has headways of approximately 10 minutes during commute periods and lunch time, and 15 minutes during other times of the day. The shuttle had about 2,000 daily riders on typical weekdays in fall 2010.²

Existing Bicycle Network

Bicycle facilities are classified into the following types:

¹ Metropolitan Transportation Commission, *Statistical Summary of Bay Area Transit Operators*, June 2010.

² Communication with Zach Seal, Broadway Shuttle Program Manager, January 14, 2011.

- **Class 1 Paths** – These facilities are located off-street and can serve both bicyclists and pedestrians. Recreational trails can be considered Class 1 facilities. Class 1 paths are generally paved and are typically 8 to 10 feet wide excluding shoulders.
- **Class 2 Bicycle Lanes** – These facilities provide a dedicated pavement width for bicyclists within the street width through the use of striping and appropriate signage. These facilities are typically five to six feet wide.
- **Class 3 Bicycle Routes** – These facilities are found along streets that do not provide sufficient width for dedicated bicycle lanes. The street is then designated as a bicycle route through the use of signage informing drivers to expect bicyclists.
 - **Class 3A Arterial Bicycle Routes** – These facilities are found along some arterial streets where bicycle lanes are not feasible and parallel streets do not provide adequate connectivity. Speed limits as low as 25 mph, shared lane bicycle stencils, wide curb lanes, and signage is used to encourage shared use.
 - **Class 3B Bicycle Boulevards** – These facilities are found along residential streets with low traffic volumes. Assignment of right-of-way to the route, traffic calming measures and bicycle traffic signal actuation are used to prioritize through-trips for bicycles.

Figure 4.13-3 shows the existing and planned bicycle facilities in the project study area based on the City of Oakland's 2007 *Bicycle Master Plan Update*. Existing bicycle facilities in the area include:

- Class 1 facilities along segments of Lake Merritt, Lake Merritt Channel, and the Estuary
- Class 2 facilities along segments of Embarcadero, 8th Street, Grand Avenue and Broadway

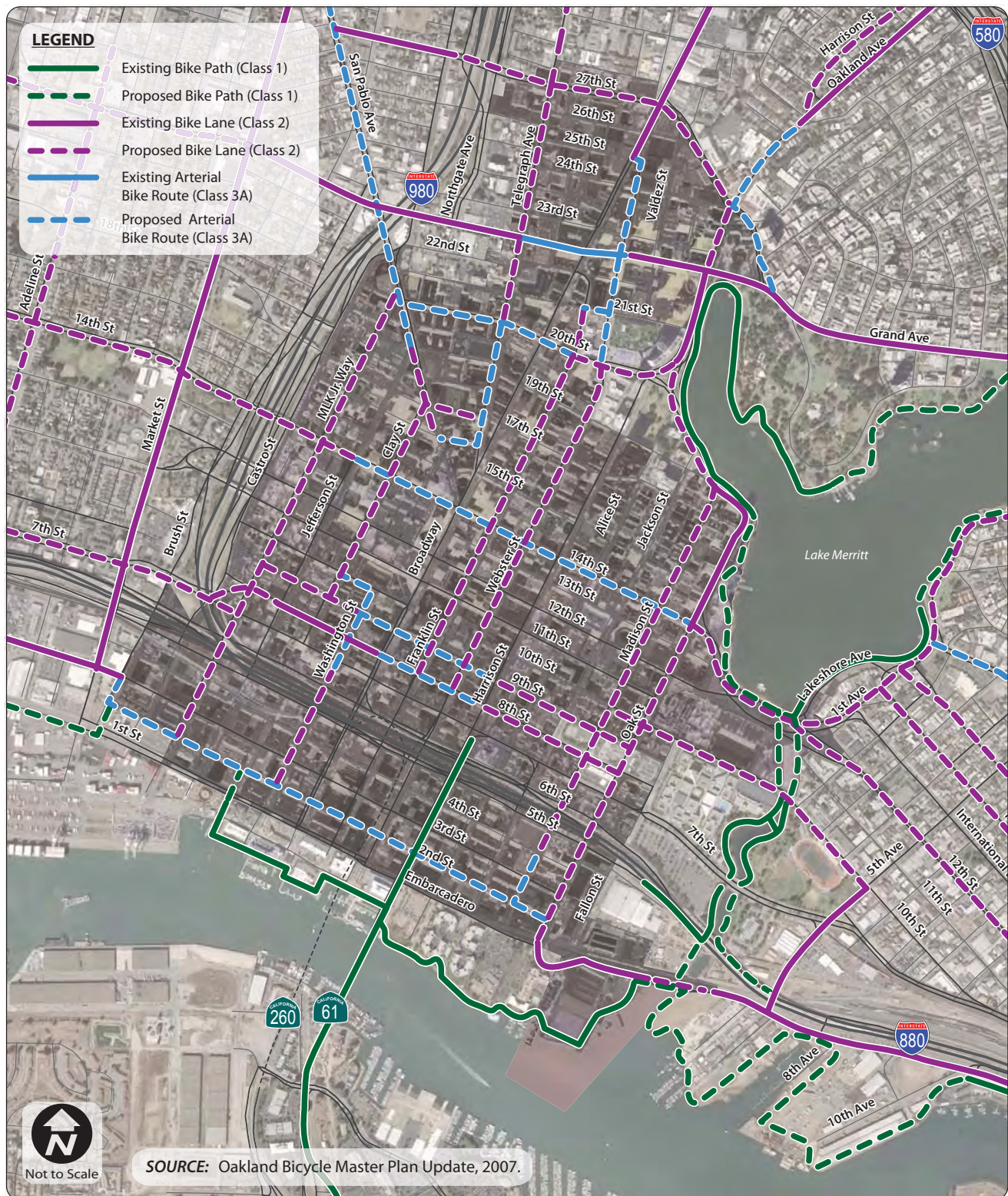
Existing Pedestrian Network

Pedestrian facilities include off-street paths, sidewalks, crosswalks, and pedestrian signals.

Off-street pedestrian paths are provided along segments of Lake Merritt, the Lake Merritt Channel, and the Inner Harbor. Jack London Square and City Center also provide pedestrian-only plazas.

Sidewalks are provided on both sides of almost all existing streets in the project study area, and vary in width from 5 to 20 feet. Signalized intersections in the area provide striped crosswalks and pedestrian signals. Some signalized intersections in Chinatown provide a pedestrian "scramble phase" (i.e., a signal phase where vehicular traffic on all intersection approaches are stopped, and pedestrians can cross the intersection diagonally). Unsignalized intersections in the area provide striped crosswalks across some approaches.

The majority of the project study area is located in downtown Oakland. The City of Oakland's *Pedestrian Master Plan* (PMP) designates downtown Oakland as a pedestrian district based on a pedestrian-friendly street grid, high levels of pedestrian activity, and a high density of pedestrian trip generators, including commercial, residential, cultural, and recreational uses within walking distance (PMP, 2002). The designation of the downtown Pedestrian District indicates the importance of pedestrian circulation and safety in the area, and the City's commitment to the downtown area as a safe and enjoyable place for walking.



SOURCE: Oakland Bicycle Master Plan Update, 2007; Fehr & Peers

Proposed Amendments to the Central District Urban Renewal Plan . 210505.01

Figure 4.13-3
Existing and Proposed Bicycle Facilities

In addition, the PMP designates Broadway, Telegraph Avenue, San Pablo Avenue, Martin Luther King Jr. Way, and Grand Avenue as City Routes, which are defined as:

“City routes designate streets that are destinations in themselves – places to live, work, shop, socialize and travel. They provide the most direct connections between walking and transit and connect multiple districts in the City.”

Collisions at Railroad Crossings

An active rail line is located just to the south of the Project Area. Both Amtrak and freight trains use this rail line. About 40 to 60 trains currently use this segment of railroad on a typical weekday (FRA, 2011). Between Clay and Webster Streets, train tracks are located in the center of Embarcadero/1st Street. Otherwise, train tracks are located just north of Embarcadero. **Table 4.13-5** summarizes the characteristics of the eight railroad crossings in the project vicinity. All railroad crossings are public at-grade crossings with gate controls on the vehicular approaches.

Three years (2007–2009) of collision data was collected from the Federal Railroad Administration for railroad crossings within the project vicinity (summarized in **Table 4.13-6**). During this time period, five collisions were reported at the eight railroad crossings. There was one fatal collision in the project vicinity during these three years. The fatal collision occurred at the crossing on Broadway and involved a pedestrian and a train.

Existing Traffic Conditions

Traffic impacts for development projects are typically analyzed at the intersection level. However, because specifics about most of the future projects under the Redevelopment Plan, including size, land uses, and locations are not known, and future individual developments would be subject to further CEQA review, this program-level EIR does not analyze intersection impacts. Instead, project impacts are analyzed at the roadway segment level during both AM and PM peak hours. However, this EIR summarizes existing and future intersection operations based on previously completed analyses (see page 4.13-16).

Data Collection

Traffic data used for this analysis are based on multi-day automatic machine (“tube”) counts collected for the *2007-2014 Housing Element EIR* in May and June 2009, and for road segments on which tube counts were not conducted, weekday morning (7:00 to 9:00 AM) and evening (4:00 to 7:00 PM) peak-period intersection traffic counts were conducted in September and October 2010. The intersection data was used to derive volumes on adjacent roadway segments. All data was collected on sunny days, while area schools were in normal session. For each study street segment, the one hour with the highest traffic volume during the two peak commute periods (7:00 to 9:00 AM and 4:00 to 7:00 PM) was selected for analysis.

**TABLE 4.13-5
RAILROAD CROSSING INVENTORY**

Location	# of Daily Train Movements	Train Crossing Speeds (MPH)	# of Train Tracks	# of Traffic Lanes Crossing Railroad	Traffic Control Devices					
					Advance Warning	Pavement Markings	Train Signals	Bells	Gates	Four Quadrant Gates
Market Street near Embarcadero.	56	1 to 25	3	4	Yes	Yes	Yes	3	3	No
MLK Way near Embarcadero	56	1 to 15	2	4	No	Yes	Yes	4	0	No
Clay Street near Embarcadero	56	1 to 15	2	2	Yes	No	Yes	2	2	No
Washington St. near Embarcadero	56	1 to 15	3	2	No	Yes	Yes	4	0	No
Broadway near Embarcadero	60	1 to 25	3	4	No	Yes	Yes	2	2	No
Franklin Street near Embarcadero	56	0 to 25	3	2	No	Yes	Yes	3	3	No
Webster Street near Embarcadero	56	1 to 25	2	2	No	Yes	Yes	3	3	No
Oak Street near Embarcadero	50	1 to 15	3	2	No	Yes	Yes	2	2	No

NOTES:

¹ Inventory data summarized with the latest data available.

SOURCE: Federal Railroad Administration, *Crossing Inventory and Accident Reports* accessed in December 2010 and verified by Fehr & Peers in January 2011.

**TABLE 4.13-6
RAILROAD CROSSING COLLISIONS SUMMARY (2007-2009)**

Metric	Market Street	MLK Way	Clay Street	Washington Street	Broadway	Franklin Street	Webster Street	Oak Street
Total Collisions	1	0	0	0	1	1	2	0
Collisions Involving Train and:								
Pedestrians	0	0	0	0	1	0	1	0
Bicyclists	0	0	0	0	0	0	1	0
Vehicles	1	0	0	0	0	1	0	0
Collisions Resulting in Injury	0	0	0	0	0	0	2	0
Collisions Resulting in Fatality	0	0	0	0	1	0	0	0

SOURCE: Federal Railroad Administration, *Crossing Inventory and Accident Reports* accessed in December 2010

Analysis Methods

Traffic operations are described using the term “Level of Service” (LOS). Level of Service is a qualitative description of traffic operations from the vehicle driver perspective and consists of the delay experienced by the driver on the roadway facility. It ranges from LOS A, with no congestion and little delay, to LOS F, with excessive congestion and delays. Different methods are used to assess different roadway facilities such as road segments, or signalized and unsignalized (stop-controlled) intersections.

Roadway Segments

This program-level EIR uses roadway segment LOS to determine if the Project would result in significant impacts. The 2000 *Highway Capacity Manual* (HCM) defines LOS for roadway segments, including freeways and arterials, based on traffic density and/or average speed. The Florida Department of Transportation (FDOT) developed a methodology to define roadway segment LOS based on generalized roadway volume capacities consistent with the 2000 HCM methodologies. The FDOT roadway segment LOS classifications are based on area setting (urban, suburban, or rural), type of roadway (freeway, arterial, or collector), number of lanes, and intersection spacing. This EIR uses the FDOT roadway segment LOS methodology to analyze roadway segment operations. Appendix E-1 presents the LOS thresholds for various roadway types.

This analysis also provides the volume-to-capacity (v/c) ratio for the studied roadway segments, which presents the amount of a roadway segment’s directional capacity used by traffic during the peak hour. For example, a v/c ratio of 1.00 indicates that a roadway segment is operating at maximum capacity. Capacity is determined by roadway characteristics such as type of roadway, number of lanes, spacing of intersections, and presence of left-turn lanes and/or medians. This analysis assumes that roadway capacity is the LOS E threshold as defined in Appendix E-1 for the different roadway types.

Signalized Intersections

Signalized intersection operations are generally evaluated using methods provided in the 2000 HCM. These methods evaluate average control delays and then assign an LOS. Control delay is defined as the delay associated with deceleration, stopping, moving up in the queue, and acceleration experienced by drivers at an intersection. **Table 4.13-7** provides descriptions of various LOS and the corresponding ranges of delays for signalized intersections.

Unsignalized Intersections

Unsignalized intersection LOS also is analyzed using the 2000 HCM. Delay is calculated for movements that are controlled by a stop sign or that must yield the right-of-way. The movement or approach with the highest delay is reported. Table 4.13-7 shows the LOS ranges for unsignalized intersections. They are lower than the delay ranges for signalized intersections because drivers will tolerate more delay at signals.

**TABLE 4.13-7
DEFINITIONS FOR INTERSECTION LEVEL OF SERVICE**

Unsignalized Intersections		Level of Service Grade	Signalized Intersections	
Description	Average Total Vehicle Delay (Seconds)		Average Control Vehicle Delay (Seconds)	Description
No delay for stop-controlled approaches.	≤10.0	A	≤10.0	Free Flow or Insignificant Delays: Operations with very low delay, when signal progression is extremely favorable and most vehicles arrive during the green light phase. Most vehicles do not stop at all.
Operations with minor delay.	>10.0 and ≤15.0	B	>10.0 and ≤20.0	Stable Operation or Minimal Delays: Generally occurs with good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average delay. An occasional approach phase is fully utilized.
Operations with moderate delays.	>15.0 and ≤25.0	C	>20.0 and ≤35.0	Stable Operation or Acceptable Delays: Higher delays resulting from fair signal progression and/or longer cycle lengths. Drivers begin having to wait through more than one red light. Most drivers feel somewhat restricted.
Operations with increasingly unacceptable delays.	>25.0 and ≤35.0	D	>35.0 and ≤55.0	Approaching Unstable or Tolerable Delays: Influence of congestion becomes more noticeable. Longer delays result from unfavorable signal progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop. Drivers may have to wait through more than one red light. Queues may develop, but dissipate rapidly, without excessive delays.
Operations with high delays, and long queues.	>35.0 and ≤50.0	E	>55.0 and ≤80.0	Unstable Operation or Significant Delays: Considered to be the limit of acceptable delay. High delays indicate poor signal progression, long cycle lengths and high volume to capacity ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.	>50.0	F	>80.0	Forced Flow or Excessive Delays: Occurs with oversaturation when flows exceed the intersection capacity. Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.

SOURCE: Transportation Research Board, Special Report 209, *Highway Capacity Manual*, 2000.

Intersections Previously-Identified with Unacceptable LOS

In addition to the study roadway segments listed above, previous environmental documents have identified a number of intersections in the project study area or on streets providing access to the area that either currently operate at an unacceptable LOS or are projected to operate at an unacceptable LOS in the future. This EIR identifies these intersections as “impacted intersections” because the components of the Project also could affect those locations.

Although not legally required to analyze project-related impacts for this Program EIR, this EIR identifies “impacted intersections” to provide additional information about identified potential traffic-related impacts and to provide CEQA clearance for qualifying future development projects in the Project Area, pursuant to state CEQA Guidelines sections 15183³, 15162 through 15164⁴ and 15168⁵.

Table 4.13-8 presents intersections that previous environmental documents have identified as having significant and unavoidable impacts.

Existing Roadway Operations

Existing operations were evaluated for the weekday AM and PM peak hours on the study roadway segments. The existing volumes were used with the existing number of lanes as inputs into the LOS calculations to evaluate current operations. **Table 4.13-9** summarizes LOS on the study street segments. Appendix E-2 provides the LOS calculations.

The following roadway segments currently experience unacceptable LOS during one or both peak hours:

- #15.⁶ Eastbound Grand Avenue between Harrison Street and I-580 operates at LOS E during the PM peak hour
- #18. Eastbound Embarcadero east of 5th Avenue operates at LOS E during the PM peak hour

All other study roadway segments currently operate at an acceptable LOS D or better during both peak hours.

Alameda County Congestion Management Agency (ACCMA) Analysis of Existing Conditions

The ACCMA (changed to Alameda County Transportation Commission [ACTC] as of July 2010) conducts periodic monitoring of the freeways and major roadways in Alameda County. The most recent *Level of Service Monitoring on the Congestion Management Program Roadway Network* was released in September 2010. The ACCMA monitoring report assesses existing freeway operations through “floating car” travel time surveys, which are conducted on all freeway segments during the PM peak hours (4:00 PM to 6:00 PM), and on selected freeway segments during the AM peak hours (7:00 AM to 9:00 AM). Based on the results of these surveys, ACCMA assigns a LOS grade to each segment according to the method described in the 1985 HCM. Any segment

³ Section 15183 allows a streamlining of environmental review for projects that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified, unless such a project would have environmental impacts particular to the project, or the project site.

⁴ Sections 15162-15164 allows for the preparation of a Subsequent EIR and/or Negative Declaration, a Supplemental EIR, and/or an Addendum to an EIR that has already been certified when certain conditions are met.

⁵ Section 15168 allows for the streamlining of environmental review for projects that are determined, pursuant to Section 15162, not to have additional environmental impacts or require additional information, beyond the recommendations and analysis contained in the Program EIR. Such projects would not require the preparation of an environmental document.

⁶ This number refers to the identification number used to identify the roadway segment in tables and figures.

**TABLE 4.13-8
SUMMARY OF INTERSECTIONS PREVIOUSLY IDENTIFIED
AS HAVING SIGNIFICANT AND UNAVOIDABLE IMPACTS^a**

Intersection	EIR/Project Document	Document Status ^{b,c}	Existing Conditions			Future Conditions		
			Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
7th Street/8th Street/ 5th Avenue	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	F
7th Street/12th Street (SB)/14th Avenue	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	C	F
Adeline Street/ 5th Street	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	F	F
Atlantic Avenue/ Webster Street (City of Alameda)	Oakland Army Base Auto Mall Project SEIR	C	2005	C	C	2025	E	F
Broadway/3rd Street	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	B	F
Broadway/5th Street	Oak to Ninth Avenue DEIR	C	2004	C	F	2025	E	F
Broadway/5th Street	Oakland Army Base Auto Mall Project SEIR	C	2005	C	E	2025	F	F
Broadway/7th Street	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	E
Broadway/12th Street	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	B	E
Broadway/23rd Street	Broadway and West Grand Avenue DEIR	C	2004	C	D	2025	C	E
Broadway/ West Grand Avenue	Broadway & West Grand Avenue DEIR	C	2004	C	D	2025	C	E
Broadway/ MacArthur Boulevard	Kaiser Permanente Oakland Medical Center Master Plan DEIR	C	2004	C	C	2025	C	E
	MacArthur BART Transit Village DEIR	C	2006	D	D	2030	F	F
	Alta Bates Summit Hospital DEIR	C	2009	C	C	2035	E	D
Brush Street/ 11th Street/I-980 Westbound On-Ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	E	B
Brush Street/West Grand Avenue (side-street stop controlled)	Alta Bates Summit Hospital DEIR	C	2009	E(F)	F(F)	2035	F(F)	F(F)
Castro Street/ 17th Street/I-980 Eastbound Off-Ramp	Uptown Mixed Use Project DEIR	C	2003	C	C	2025	C	E
	Kaiser Center Redevelopment Project DEIR	D	2008	C	C	2030	E	D
East 9th Street/1-880 Northbound Off-Ramp	Gateway Community Development Project	D	2004	F	F	2025	F	F
Embarcadero/ 5th Avenue	Oak to Ninth Avenue DEIR	C	2004	F	F	2025	D	F
Embarcadero/ Broadway	Oak to Ninth Avenue DEIR	C	2004	A	A	2025	B	F

TABLE 4.13-8 (Continued)
SUMMARY OF INTERSECTIONS PREVIOUSLY IDENTIFIED
AS HAVING SIGNIFICANT AND UNAVOIDABLE IMPACTS^a

Intersection	EIR/Project Document	Document Status ^{b,c}	Existing Conditions			Future Conditions		
			Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
Embarcadero/ I-880 Northbound Off-Ramp	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	F
Embarcadero/ I-880 Southbound Off-Ramp	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	D	E
<i>Embarcadero/ Webster Street</i>	Jack London Square Redevelopment DEIR	C	2003	A	B	2025	E	F
Foothill Boulevard/ 14th Avenue (Eastbound)	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	C	F
Foothill Boulevard/ 14th Avenue (Westbound)	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	E	C
<i>Franklin Street/ 2nd Street</i>	Jack London Square Redevelopment DEIR	C	2003	F	B	2025	F	B
<i>Franklin Street/ 3rd Street</i>	Jack London Square Redevelopment DEIR	C	2003	F	B	2025	F	D
<i>Franklin Street/ 17th Street</i>	Uptown Mixed Use Project DEIR	C	2003	B	B	2025	E	D
Frontage Road/ West Grand Avenue	Uptown Mixed Use Project DEIR	C	2003	C	E	2025	F	F
Grand Avenue/ El Embarcadero	Kaiser Center Redevelopment Project DEIR	D	2008	C	F	2030	C	F
Grand Avenue/ MacArthur Boulevard/ I-580 EB Off-Ramp	Kaiser Center Redevelopment Project DEIR	D	2008	D	E	2030	E	F
<i>Harrison Street/ 7th Street</i>	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	C	E
<i>Harrison Street/ 20th Street/Kaiser Center Access Road</i>	Kaiser Center Redevelopment Project DEIR	D	2008	C	C	2030	E	F
<i>Harrison Street/ 21st Street</i>	Kaiser Center Redevelopment Project DEIR	D	2008	A	B	2030	B	F
Harrison Street/ 27th Street/ 24th Street	Kaiser Center Redevelopment Project DEIR	D	2008	C	D	2030	F	F
Harrison Street/ 29th Street (side-street stop controlled)	Alta Bates Summit Hospital DEIR	C	2009	A(E)	A(E)	2035	F(F)	C(F)
<i>Harrison Street/ Grand Avenue</i>	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	F	D
	Uptown Mixed Use Project DEIR	C	2003	C	D	2030	F	F
<i>Harrison Street/ Lakeside Drive</i>	Kaiser Center Redevelopment Project DEIR	D	2008	A	B	2030	C	E
<i>Harrison Street/ MacArthur Boulevard/ Santa Clara Avenue</i>	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	F	C

TABLE 4.13-8 (Continued)
SUMMARY OF INTERSECTIONS PREVIOUSLY IDENTIFIED
AS HAVING SIGNIFICANT AND UNAVOIDABLE IMPACTS^a

Intersection	EIR/Project Document	Document Status ^{b,c}	Existing Conditions			Future Conditions		
			Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
Harrison Street/ Stanley Place/I-580 Eastbound Off-Ramp	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	F	C
I-880 Northbound Off-Ramp/7th Street	Oakland Army Base Auto Mall Project SEIR	C	2005	B	B	2025	C	E
<i>Jackson Street/ 6th Street/ I-880 Northbound Off-Ramp</i>	Oak to Ninth Avenue DEIR	C	2004	C	C	2025	F	F
	Kaiser Center Redevelopment Project DEIR	D	2008	F	F	2030	F	F
	325 7th Street Project DEIR	D	2006	E	E	2030	F	F
<i>Kaiser Center Access Road/21st Street</i>	Kaiser Center Redevelopment Project DEIR	D	2008	B	B	2030	B	E
Lakeshore Avenue/ Foothill Boulevard	Oak to Ninth Avenue DEIR	C	2004	C	B	2025	E	B
Lakeshore Avenue/ Lake Park Avenue	Oak to Ninth Avenue DEIR	C	2004	D	D	2025	D	E
Lakeshore Avenue/ MacArthur Boulevard/ I-580 Eastbound On-Ramp	Oak to Ninth Avenue DEIR	C	2004	C	E	2025	C	F
	Kaiser Center Redevelopment Project DEIR	D	2008	C	D	2030	F	F
Mandela Parkway/ 7th Street	Oakland Army Base Auto Mall Project SEIR	C	2005	B	B	2025	E	F
Market Street/ 3rd Street	Jack London Square Redevelopment DEIR	C	2003	C	C	2025	E	F
Market Street/ 5th Street	Jack London Square Redevelopment DEIR	C	2003	B	B	2025	E	F
Market Street/ 7th Street	Jack London Square Redevelopment DEIR	C	2003	C	C	2025	F	F
Market Street/ West Grand Avenue	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	B	E
Martin Luther King Jr. Way/5th Street	Jack London Square Redevelopment DEIR	C	2003			2025	E	F
Northgate Avenue/ 27th Street/I-980 On-Ramp	Alta Bates Summit Hospital DEIR	C	2009	C	C	2035	E	F
Northgate Avenue/ West Grand Avenue	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	C	C
Oak Street/5th Street/ I-880 Southbound On-Ramp	Oak to Ninth Avenue DEIR	C	2004	B	B	2025	D	F
	Kaiser Center Redevelopment Project DEIR	D	2008	E	F	2030	F	F
	325 7th Street Project DEIR	D	2006	D	F	2030	F	F
<i>Oak Street/ 7th Street</i>	Kaiser Center Redevelopment Project DEIR	D	2008	A	B	2030	B	F
<i>Oak Street/ 14th Street</i>	Kaiser Center Redevelopment Project DEIR	D	2008	B	C	2030	D	F

TABLE 4.13-8 (Continued)
SUMMARY OF INTERSECTIONS PREVIOUSLY IDENTIFIED
AS HAVING SIGNIFICANT AND UNAVOIDABLE IMPACTS^a

Intersection	EIR/Project Document	Document Status ^{b,c}	Existing Conditions			Future Conditions		
			Year	AM LOS	PM LOS	Year	AM LOS	PM LOS
Oakland Ave/ MacArthur Blvd/ Santa Clara Ave/ I-580 WB Ramps	Kaiser Center Redevelopment Project DEIR	D	2008	C	B	2030	F	C
Oakland Avenue/ Perry Place/I-580 Eastbound Ramps	Kaiser Center Redevelopment Project DEIR	D	2008	B	F	2030	F	F
	Alta Bates Summit Hospital DEIR	C	2009	B	D	2035	F	F
San Pablo Avenue/ Thomas L. Berkley Way	Uptown Mixed Use Project DEIR	C	2003	B	B	2025	C	F
San Pablo Avenue/ West Grand Avenue	Uptown Mixed Use Project DEIR	C	2003	B	B	2025	C	F
	Alta Bates Summit Hospital DEIR	C	2009	B	B	2035	C	F
<i>Telegraph Avenue/ 19th Street</i>	Uptown Mixed Use Project DEIR	C	2003	<i>B</i>	<i>B</i>	2025	F	E
Telegraph Avenue/ 23rd Street	Broadway & West Grand Avenue DEIR	C	2004	C	D	2025	D	F
Telegraph Avenue/ 24th Street	Broadway & West Grand Avenue DEIR	C	2004	B	C	2025	B	F
Telegraph Avenue/ 27th Street	Kaiser Center Redevelopment Project DEIR	D	2008	B	C	2030	C	F
	Alta Bates Summit Hospital DEIR	C	2009	B	D	2035	F	F
<i>Telegraph Avenue/ Grand Avenue</i>	Alta Bates Summit Hospital DEIR	C	2009	C	C	2035	E	F
Telegraph Avenue/ MacArthur Boulevard	MacArthur BART Transit Village DEIR	C	2006	B	B	2030	E	F
	Alta Bates Summit Hospital DEIR	C	2009	C	B	2035	E	F
Telegraph Avenue/ Thomas L. Berkley Way	Uptown Mixed Use Project DEIR	C	2003	B	B	2025	F	F
<i>Telegraph Avenue/ West Grand Avenue</i>	Uptown Mixed Use Project DEIR	C	2003	C	C	2025	E	E
	Kaiser Center Redevelopment Project DEIR	D	2008	C	C	2030	<i>D</i>	E
Telegraph Avenue/ William Street	Uptown Mixed Use Project DEIR	C	2003	A	A	2025	E	E
<i>Webster Street/ 8th Street</i>	Oak to Ninth Avenue DEIR	C	2004	C	E	2025	<i>D</i>	E

Bold typeface signifies unacceptable LOS; *Italicized* typeface indicates intersections within the downtown area.

^a C = Certified, D = Draft environmental document published, F = Final environmental document published.

^b Projects that have not yet been certified are: Gateway Community (2007), and 325 Seventh Street Project (2010).

SOURCE: City of Oakland, 2007-2014 *Housing Element Draft EIR*, 2010.

**TABLE 4.13-9
EXISTING ROADWAY SEGMENT LEVELS OF SERVICE (LOS)**

	Roadway Segment	Downtown?	Direction ^a	AM Peak Hour		PM Peak Hour	
				V/C Ratio	LOS ^b	V/C Ratio	LOS ^b
1	5th Street west of Broadway	Yes	EB	0.34	C	0.49	D
2	6th Street west of Broadway	Yes	WB	0.15	C	0.11	C
3	7th Street east of Mandela Parkway	No	EB	0.15	C	0.28	C
			WB	0.35	C	0.27	C
4	7th Street west of Clay Street	Yes	EB	0.20	C	0.27	C
5	8th Street west of Broadway	Yes	WB	0.17	C	0.18	C
6	7th Street east of Fallon Street	Yes	EB	0.49	D	0.82	D
			WB	0.47	D	0.30	C
7	11th Street west of Broadway	Yes	EB	0.19	C	0.24	C
8	11th Street west of Oak Street	Yes	EB	0.14	C	0.44	D
9	12th Street west of Broadway	Yes	WB	0.24	C	0.30	C
10	12th Street west of Oak Street	Yes	WB	0.48	D	0.31	C
11	East 12th Street east of 5th Avenue	No	EB	0.21	C	0.29	C
			WB	0.31	C	0.22	C
12	14th Street west of Oak Street	Yes	EB	0.16	C	0.21	C
			WB	0.20	C	0.25	C
13	14th Street west of Broadway	Yes	EB	0.21	C	0.51	D
			WB	0.48	D	0.33	C
14	West Grand Avenue west of Martin Luther King Way	No	EB	0.28	C	0.38	C
			WB	0.26	C	0.27	C
15	Grand Avenue between Harrison Street and I-580	No	EB	0.29	C	0.91	E
			WB	0.72	D	0.47	D
16	27th Street west of Harrison Street	No	EB	0.12	C	0.20	C
			WB	0.19	C	0.18	C
17	Embarcadero east of Oak Street	Yes	EB	0.08	C	0.25	C
			WB	0.35	C	0.33	C
18	Embarcadero east of 5th Avenue	No	EB	0.45	C	0.99	E
			WB	0.55	C	0.65	C
19	San Pablo Avenue north of West Grand Avenue	No	NB	0.21	C	0.33	C
			SB	0.20	C	0.21	C
20	Broadway north of Grand Avenue	No	NB	0.30	C	0.42	D
			SB	0.28	C	0.34	C
21	Broadway north of 8th Street	Yes	NB	0.38	C	0.32	C
			SB	0.26	C	0.44	D
22	Harrison Street north of Grand Avenue	No	NB	0.28	C	0.43	C
			SB	0.24	C	0.20	C
23	Jackson Street north of 7th Street	Yes	NB	0.38	D	0.27	C
			SB	0.44	D	0.48	D
24	Madison Street north of 8th Street	Yes	SB	0.23	C	0.36	C
25	Oak Street north of 8th Street	Yes	NB	0.28	C	0.21	C
26	5th Avenue south of East 12th Street	No	NB	0.24	C	0.40	C
			SB	0.34	C	0.27	C

TABLE 4.13-9 (Continued)
EXISTING ROADWAY SEGMENT LEVELS OF SERVICE (LOS)

	Roadway Segment	Downtown?	Direction ^a	AM Peak Hour		PM Peak Hour	
				V/C Ratio	LOS ^b	V/C Ratio	LOS ^b
27	Franklin Street, south of 20th Street	Yes	NB	0.10	C	0.21	C
28	Webster Street, north of 20th Street	Yes	SB	0.21	C	0.25	C
29	SR-260 (Posey and Webster Tubes) at Oakland City Limit	No	NB	0.57	C	0.48	B
			SB	0.41	B	0.72	C
30	I-880 at 16th Avenue overcrossing	No	NB	0.75	D	0.86	D
			SB	0.78	D	0.86	D
31	I-880 between Market Street and I-980	No	NB	0.44	B	0.41	B
			SB	0.37	B	0.38	B
32	I-980 at 14th Street overcrossing	No	EB	0.57	C	0.80	D
			WB	0.53	B	0.34	B

Bold typeface signifies unacceptable LOS.

^a EB = Eastbound, NB = Northbound, SB = Southbound, and WB = Westbound.

^b Based on FDOT roadway segment LOS thresholds.

SOURCE: Fehr & Peers, 2010.

with an average speed less than 30 miles per hour is assigned LOS F. Freeway interchanges with speeds below 50 percent of free flow speed are assigned LOS F. The travel time surveys concluded that 24 freeway segments, nine arterial segments and two freeway-to-freeway connectors within Alameda County operate at LOS F during the PM peak hours, including the following ten freeway, arterial and freeway-to-freeway connector segments in the City of Oakland:

- I-580 eastbound: I-80 to I-980 (*grandfathered segment*)
- I-580 eastbound: Harrison Street to Lakeshore Drive
- I-980 eastbound: I-880 to I-580/SR 24 junction (*grandfathered segment*)
- SR 13 southbound: Hiller Drive to Moraga Avenue
- SR 13 southbound: Redwood Road to I-580 eastbound merge
- SR 24 eastbound: I-580 to Broadway/SR 13 (*grandfathered segment*)
- SR 24 eastbound: Broadway/SR 13 to Caldecott tunnel (*grandfathered segment*)
- SR 185 northbound: 46th Street to 42nd Street
- SR 13/SR 24 Interchange: SR 13 northbound to SR 24 eastbound (*grandfathered segment*)
- I-880/SR 260 Connection: SR 260 eastbound to I-880 northbound

Five of these segments operated at LOS F during the initial ACCMA data collection effort in 1991, and are therefore “grandfathered,” meaning that they are exempt from LOS standards.

Nine freeway segments located in the City of Oakland operate at LOS F during the AM peak hours:

- I-80 westbound: I-580 split to toll plaza
- I-80 westbound: toll plaza to San Francisco county line
- I-580 westbound: SR 13 off-ramp to Fruitvale Avenue
- I-580 westbound: SR 24 on-ramp to I-80/I-580 split
- I-880 northbound: Hegenberger Road to High Street
- I-880 northbound: High Street to 23rd Avenue
- SR 13 Northbound: Moraga Avenue to Hiller Drive
- SR 24 eastbound: Broadway/SR 13 to SR 24
- SR 13/SR 24 Interchange: SR 13 northbound to SR 24 eastbound

Planned Transportation Network Changes

A review of the available information indicates that numerous changes are planned for all transportation modes in the study area, as described below. However, not all of these changes have finalized design plans, are fully funded, and/or approved. Those changes lacking final design, full funding, and/or approval are not available to mitigate any deficient conditions in the No Project conditions, and it would be speculative to include them in the analysis. Therefore, they are not assumed in the quantitative analysis.

Planned Roadway Changes

The planned roadway changes identified in the study area and vicinity include:

- Caltrans is currently constructing the fourth bore of the Caldecott Tunnel on SR 24. After completion, the tunnel would accommodate a total of four travel lanes in each direction. Therefore, this project is assumed in the analysis of future conditions.
- City of Oakland has completed design for bicycle facilities on 27th Street/Bay Place between Grand and San Pablo Avenues. The project would install Class 2 bike lanes on 27th Street between Harrison Street and Broadway by removing one automobile lane in each direction. 27th Street would provide two automobile travel lanes in each direction after implementation of this project. The 27th Street bikeways are scheduled to be installed in 2011. Therefore, this project is assumed in the analysis of future conditions.
- The City of Oakland is currently designing the Webster/Franklin Bikeway project. The project would install Class 2 bike lanes on Franklin and Webster Streets between 14th Street and Broadway by generally removing one automobile lane on both Franklin and Webster Streets. The project has been approved, fully funded, and scheduled to be implemented in 2011. Therefore, this project is assumed in the analysis of future conditions.
- The City of Oakland is currently constructing improvements on 12th Street, including Class 2 bicycle lanes on 12th Street, funded by Measure DD. 12th Street will be narrowed between Oak Street and Lakeshore Avenue, and Lakeshore Avenue will terminate in a cul-de-sac where it currently connects to 14th Street and 1st Avenue. Therefore, this project is assumed in the analysis of future conditions.

- As part of Measure DD project, bike lanes will be provided on Lakeside Drive between 19th Street and Harrison Street and Lakeside Drive will be narrowed from two automobile lanes to one automobile lane in each direction. Since this project is fully funded and approved, it is assumed in the analysis of future conditions.
- Class 2 bicycle lanes on Washington Street are funded and approved. Construction is expected in 2011. This project will not change the number of automobile travel lanes on Washington Street. Since this project is fully funded and approved, it is assumed in the analysis of future conditions; however, it would not affect future traffic operations because it would not change the number of automobile lanes on Washington Street.
- Class 2 bicycle lanes on 10th Street between 5th Avenue and Madison Street are funded and approved. Construction is expected in 2011, with the exception of a new 10th Street bridge over the Lake Merritt Channel that will take longer to construct. The project will not change the number of automobile travel lanes on 10th Street east of Oak Street but will change the number of automobile lanes on 10th Street between Oak and Madison Streets from two to one. Since this project is fully funded and approved, it is assumed in the analysis of future conditions.
- Class 2 bike lanes on Oak Street between 2nd and 5th Streets and on 7th Street between Fallon Street and 5th Avenue will be constructed in 2011 or 2012 as part of the detour for the replacement of the Embarcadero Bridge over the Lake Merritt Channel. Since this project is fully funded and approved, it is assumed in the analysis of future conditions; however, it would not affect future traffic operations because it would not change the number of automobile lanes on Oak or 7th Streets.
- The City of Alameda is planning improvements to the I-880/Broadway-Jackson Interchange to improve direct access to I-880 from the Posey/Webster Tubes. The design of this project has not been finalized, and the project does not have full funding or approvals. Therefore, it is not assumed in the analysis.
- The City of Oakland has developed a Community-Based Transportation Plan (CBTP) for improvements to the Harrison Street/Oakland Avenue couplet between Grand Avenue and Monte Vista Avenue to improve access for all modes. The design of this project has not been finalized and the proposed improvements do not have full funding or approvals. Therefore, it is not assumed in the analysis).

Planned Transit Changes

In May 2007, AC Transit published a Draft Environmental Impact Statement/Environmental Impact Report for the implementation of Bus Rapid Transit (BRT) on Telegraph Avenue and International Boulevard connecting Berkeley, Oakland, and San Leandro. The proposed system would dedicate one travel lane in each direction to bus operations only, allowing buses to provide a quicker and more reliable service than regular bus service today. Within the Project Area, the proposed BRT project would convert one mixed-vehicle through lane to a BRT-only in each direction on Telegraph Avenue north of 20th Street, use mixed-flow travel lanes on 20th Street between Telegraph Avenue and Broadway and on Broadway between 20th Street and 11th/12th Street couplet, and convert one mixed-vehicle through lane to a BRT-only lane on eastbound 11th Street and westbound 12th Street between Broadway and Oak Street.

Currently, there are no finalized design plans, no assurance of full funding for the BRT project, and no approvals from AC Transit, the City of Oakland or other public agencies. Because the BRT project is not fully designed, approved, or funded, this EIR does not include these planned roadway changes in the analysis.

Planned Bicycle/Pedestrian Facilities Changes

The City of Oakland *Bicycle Master Plan Update*, as adopted in December 2007, proposes several improvements to the bicycle facilities within the project study area, including:

- Complete the Class 1 bicycle path around Lake Merritt
- Provide Class 2 bicycle lanes on segments of Martin Luther King Jr. Way, Lakeside Drive, Clay, Washington, Franklin, Webster, Madison, Oak, 8th, 9th, 10th, 12th, 20th, and 27th Streets
- Provide Class 3 arterial bicycle routes along segments of Washington, Webster, Madison, 2nd, 8th, 9th, 14th, 20th, 21st, and 27th Streets, and San Pablo and Telegraph Avenues

This is a comprehensive list of planned bicycle facilities. Funded and approved bicycle projects that would change roadways were identified in the previous section.

4.13.2 Regulatory Setting

Local Plans and Policies

The Oakland General Plan is comprised of numerous elements, and those containing policies relevant to transportation resources primarily are contained in the Land Use and Transportation Element (LUTE). The goals and policies contained in the various General Plan Elements are often competing. In reviewing a project for conformity with the General Plan, the City is required to ‘balance’ the competing goals and policies. This project is reviewed for compliance with the following local plans and policies:

- General Plan LUTE
- City of Oakland Pedestrian Master Plan
- City of Oakland Bicycle Master Plan
- City of Oakland Bicycle Parking Ordinance
- City of Oakland Transit First Policy
- AC Transit Short-Range Transit Plan
- BART Strategic Plan
- City of Oakland Standard Conditions of Approval

City of Oakland General Plan LUTE

The City of Oakland, through various policy documents, states a strong preference for encouraging use of alternative transportation modes. The following policies are included in the LUTE:

LUTE Policy Framework: Encouraging Alternative Means of Transportation. “A key challenge for Oakland is to encourage commuters to carpool or use alternative modes of transportation, including bicycling or walking. The Policy Framework proposes that congestion be lessened by promoting alternative means of transportation, such as transit, biking, and walking, providing facilities that support alternative modes, and implementing street improvements. The City will continue to work closely with local and regional transit providers to increase accessibility to transit and improve intermodal transportation connections and facilities. Additionally, policies support the introduction of light rail and trolley buses along appropriate arterials in heavily traveled corridors, and expanded use of ferries in the bay and estuary.”

- *Objective T2, Integrating Transportation and Land Use Planning.* Provide mixed use, transit-oriented development that encourages public transit use and increases pedestrian and bicycle trips at major transportation nodes.
- *Policy T2.1, Encouraging Transit-Oriented Development.* Transit-oriented development should be encouraged at existing or proposed transit nodes, defined by the convergence of two or more modes of public transit such as BART, bus, shuttle service, light rail or electric trolley, ferry, and inter-city or commuter rail.
- *Policy T2.2, Guiding Transit-Oriented Development.* Transit-oriented developments should be pedestrian oriented, encourage night and day time use, provide the neighborhood with needed goods and services, contain a mix of land uses, and be designed to be compatible with the character of surrounding neighborhoods.
- *Policy T2.3, Promoting Neighborhood Services.* Promote neighborhood-serving commercial development within one-quarter to one-half mile of established transit routes and nodes.
- *Policy T2.4, Linking Transportation and Economic Development.* Encourage transportation improvements that facilitate economic development.
- *Policy T2.5, Linking Transportation and Activities.* Link transportation facilities and infrastructure improvements to recreational uses, job centers, commercial nodes, and social services (i.e., hospitals, parks, or community centers).
- *Policy T3.5, Including Bikeways and Pedestrian Walks.* The City should include bikeways and pedestrian walks in the planning of new, reconstructed, or realized streets, wherever possible.
- *Policy T3.6, Encouraging Transit.* The City should encourage and promote use of public transit in Oakland by expediting the movement of and access to transit vehicles on designated “transit streets” as shown on the Transportation Plan. (Policies T3.6 and T3.7 are based on the City Council’s passage of “Transit First” policy in October 1996.)
- *Policy T3.7, Resolving Transportation Conflicts.* The City, in constructing and maintaining its transportation infrastructure, should resolve any conflicts between public transit and single occupant vehicles in favor of the transportation mode that has the potential to provide the greatest mobility and access for people, rather than vehicles, giving due consideration to the environmental, public safety, economic development, health and social equity impacts.

- *Policy T4.1, Incorporating Design Features for Alternative Travel.* The City will require new development, rebuilding, or retrofit to incorporate design features in their projects that encourage use of alternative modes of transportation such as transit, bicycling, and walking.

City of Oakland Pedestrian Master Plan

In November 2002, the *Pedestrian Master Plan* (PMP) was adopted by the City Council and incorporated into the adopted General Plan. The PMP identifies policies and implementation measures that promote a walkable City. The PMP designated most of downtown Oakland as the Downtown Pedestrian District.

The *PMP* includes the following relevant policies and actions:

- *Policy 1.1: Crossing Safety:* Improve pedestrian crossings in area of high pedestrian activity where safety is an issue.

Action 1.1.1. Consider the full range of design elements – including bulbouts and refuge islands – to improve pedestrian safety.

- *Policy 1.2: Traffic Signals:* Use traffic signals and their associated features to improve pedestrian safety at dangerous intersections.

Action 1.2.7. Consider using crossing enhancement technologies like countdown pedestrian signals at the highest pedestrian volume locations.

- *Policy 1.3: Sidewalk Safety:* Strive to maintain a complete sidewalk network free of broken or missing sidewalks or curb ramps.

Action 1.3.7. Conduct a survey of all street intersections to identify corners with missing, damaged, or non-compliant curb ramps and create a plan for completing their installation.

- *Policy 2.1: Route Network:* Create and maintain a pedestrian route network that provides direct connections between activity centers.

Action 2.1.8. To the maximum extent possible, make walkway accessible to people with physical disabilities.

- *Policy 2.3: Safe Routes to Transit:* Implement pedestrian improvements along major AC Transit lines and at BART stations to strengthen connections to transit.

Action 2.3.1: Develop and implement street designs (like bus bulbouts) that improve pedestrian/bus connections.

Action 2.3.3: Prioritize the implementation of street furniture (including bus shelters) at the most heavily used transit stops.

Action 2.3.4: Improve pedestrian wayfinding by providing local area maps and directional signage at major AC Transit stops and BART stations.

- *Policy 3.2: Land Use:* Promote land uses and site designs that make walking convenient and enjoyable.

Action 3.2.4: Require contractors to provide safe, convenient, and accessible pedestrian rights-of-way along construction sites that require sidewalk closure.

Action 3.2.8: Discourage motor vehicle parking facilities that create blank walls, unscreened edges along sidewalks, and/or gaps between sidewalks and building entrances.

City of Oakland Bicycle Master Plan

The Oakland City Council adopted the *Oakland Bicycle Master Plan Update* in December 2007. The adopted plan includes the following policy-supporting actions that are applicable to the development facilitated by the Proposed Amendments:

- ***Policy 1A: Bikeway Network:*** Develop and improve Oakland's bikeway network.
 - Action 1A.1 – Bicycle Lanes (Class 2):* Install bicycle lanes where feasible as the preferred bikeway type for all streets on the proposed bikeway network (except for the bicycle boulevards proposed for local streets with low traffic volumes and speeds).
 - Action 1A.3 – Bicycle Boulevards (Class 3B):* Enhance bicycle routes on local streets by developing bicycle boulevards with signage, striping, and intersection modifications to prioritize bicycle travel.
 - Action 1A.6 – Dedicated Right Turn Lanes and “Slip Turns”:* Where feasible, avoid the use of dedicated right turn lanes on streets included in the bikeway network. Where infeasible, consider a bicycle through lane to the left of the turn lane or a combined bicycle lane/right turn lane.
- ***Policy 1B: Routine Accommodation:*** Address bicycle safety and access in the design and maintenance of all streets.
 - Action 1B.2 – Traffic Signals:* Include bicycle-sensitive detectors, bicycle detector pavement markings, and adequate yellow time for cyclists with all new traffic signals and in the modernization of all existing signals.
- ***Policy 1C: Safe Routes to Transit:*** Improve bicycle access to transit, bicycle parking at transit facilities, and bicycle access on transit vehicles.
 - Action 1C.1 – Bikeways to Transit Stations:* Prioritize bicycle access to major transit facilities from four directions, integrating bicycle access into the station design and connecting the station to the surrounding neighborhoods.
- ***Policy 1D: Parking and Support Facilities:*** Promote secure and conveniently located bicycle parking at destinations throughout Oakland.
 - Action 1D.6 – Bicycle Parking Ordinance:* Adopt an ordinance as part of the City's Planning Code that would require new development to include short and long-term bicycle parking.
 - Action 1D.7 – Development Incentives:* Consider reduced automobile parking requirements in exchange for bicycle facilities as part of transportation demand management strategies in new development.

City of Oakland Bicycle Parking Ordinance

The Oakland City Council adopted a Bicycle Parking Ordinance in 2008. The ordinance is contained in Municipal Code Chapter 17.117, and requires new development to provide both short-term (i.e., bicycle racks) and long-term bicycle parking (i.e., lockers or indoor storage) for bicycles.

City of Oakland Transit First Policy

The City adopted what is known as the “Transit First” Policy in October 2006. This resolution supports public transit and other alternatives to single occupant vehicles, and directs the LUTE to incorporate “various methods of expediting transit services on designated streets, and encouraging greater transit use.”

AC Transit Short-Range Transit Plan

AC Transit, the provider of bus transit service in the project study area, has established goals related to transit service. These goals are documented in the *Short Range Transit Plan – Fiscal Year (FY) 2003 to FY 2012* (AC Transit, 2004). Some of the major goals of AC Transit include:

- Goal 1: Provide High Quality, Useful Transit Service for Customers in the East Bay.
- Goal 4: Plan and Advocate for the Funding and Implementation of Future Projects.
- Work with City and Local agencies to make transit usage as safe, secure, reliable, and quick as possible and to promote transit usage in the planning process.
- Promote “Transit First” development practices and increased funding for transit through transit mitigation funding for new developments.

AC Transit has also established a *Strategic Vision* to provide fast, frequent, reliable service on a wide variety of routes with attractive vehicles and an easy-to-use, affordable fare structure (AC Transit, 2002). Key elements of the AC Transit Strategic Vision include: increased frequency of buses to reduce wait time; greater frequency of service during midday, evening and owl travel times; an easy-to-use, integrated fare system; flexible routes; adequate around-the-clock service; a redesigned network that matches travel patterns and helps meet demand in the high-density urban core; gradual transition to “Bus Rapid Transit” in the highest ridership corridors; and bus stop improvements including real-time display of arrival times.

BART Strategic Plan

BART, the provider of rail transit service in the project study area, has established strategies, projects and programs related to transit service. These goals are documented in the BART Strategic Plan, adopted in October 2008. Some of the relevant elements of the BART Strategic Plan include:

- *Station Access Strategy*: Develop alliances with our transit partners and the community to maximize connectivity and to facilitate multi-modal access including transit, bicycling and walking.

- ***Projects and Programs:*** Station Access Program: Develop a package of programs and projects to improve access to our stations by modes other than single occupant vehicles. Station Wayfinding Program: Implement wayfinding signage to and from BART station and within the station, to aid the customer in navigating the BART system and in making connections to other transit and local destinations.
- ***Partnerships for Financial Health Strategy:*** Protect the Bay Area's investment in rail transit through long-term capital planning, strategic partnerships and outreach with elected and community leaders, the media and the public.
- ***Projects and Programs: Employer Transit Forum:*** Recognize and cultivate a closer relationship with the employers we serve.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

If the specific developments included in this program-level EIR are approved by the City, then all applicable Standard Conditions of Approval (SCA) for parking and transportation demand management, and construction traffic and parking would be adopted as conditions of approval and required of development facilitated by the Proposed Amendments to help ensure less-than-significant traffic and circulation impacts. The SCA's are incorporated and required as part of the project, so they are not listed as mitigation measures.

- **SCA 20: Improvements in the Public Right-of-Way (General)**

Approved prior to the issuance of a P-job or building permit

- a. The project applicant shall submit Public Improvement Plans to Building Services Division for adjacent public rights-of-way (ROW) showing all proposed improvements and compliance with the conditions and/or mitigations and City requirements including but not limited to curbs, gutters, sewer laterals, storm drains, street trees, paving details, locations of transformers and other above ground utility structures, the design specifications and locations of facilities required by the East Bay Municipal Utility District (EBMUD), street lighting, on-street parking and accessibility improvements compliant with applicable standards and any other improvements or requirements for the project as provided for in this Approval. Encroachment permits shall be obtained as necessary for any applicable improvements- located within the public ROW.
- b. Review and confirmation of the street trees by the City's Tree Services Division is required as part of this condition and/or mitigations.
- c. The Planning and Zoning Division and the Public Works Agency will review and approve designs and specifications for the improvements. Improvements shall be completed prior to the issuance of the final building permit.
- d. The Fire Services Division will review and approve fire crew and apparatus access, water supply availability and distribution to current codes and standards.

- **SCA 21: Improvements in the Public Right-of Way (Specific)**

Approved prior to the issuance of a grading or building permit. Final building and public improvement plans submitted to the Building Services Division shall include the following components:

- a. Install additional standard City of Oakland streetlights.
 - b. Remove and replace any existing driveway that will not be used for access to the property with new concrete sidewalk, curb and gutter.
 - c. Reconstruct drainage facility to current City standard.
 - d. Provide separation between sanitary sewer and water lines to comply with current City of Oakland and Alameda Health Department standards.
 - e. Construct wheelchair ramps that comply with Americans with Disabilities Act requirements and current City Standards.
 - f. Remove and replace deficient concrete sidewalk, curb and gutter within property frontage.
 - g. Provide adequate fire department access and water supply, including, but not limited to currently adopted fire codes and standards.
- **SCA 25: Parking and Transportation Demand Management**

This SCA would apply to all development projects facilitated by the Proposed Amendments consisting of 50 or more new residential units, or 50,000 square feet or more of new non-residential space.

Prior to issuance of a final inspection of the building permit. The property owner shall pay for and submit for review and approval by the City a Transportation Demand Management (TDM) plan containing strategies to

- Reduce the amount of traffic generated by new development and the expansion of existing development, pursuant to the City's police power and necessary in order to protect the public health, safety and welfare.
- Ensure that expected increases in traffic resulting from growth in employment and housing opportunities in the City of Oakland will be adequately mitigated.
- Reduce drive-alone commute trips during peak traffic periods by using a combination of services, incentives, and facilities.
- Promote more efficient use of existing transportation facilities and ensure that new developments are designed in ways to maximize the potential for alternative transportation usage.
- Establish an ongoing monitoring and enforcement program to ensure that the desired alternative mode use percentages are achieved.

The property owner shall implement the approved TDM plan. The TDM plan shall include strategies to increase bicycle, pedestrian, transit, and carpools/vanpool use. All four modes of travel shall be considered, and parking management and parking reduction strategies should be included. Actions to consider include the following:

- a. Inclusion of additional long term and short term bicycle parking that meets the design standards set forth in chapter five of the *Bicycle Master Plan*, and Bicycle Parking Ordinance, shower, and locker facilities in commercial developments that exceed the requirement.

- b. Construction of and/or access to bikeways per the Bicycle Master Plan; construction of priority Bikeway Projects, on-site signage and bike lane striping.
- c. Installation of safety elements per the Pedestrian Master Plan (such as cross walk striping, curb ramps, count-down signals, bulb outs, etc.) to encourage convenient and safe crossing at arterials.
- d. Installation of amenities such as lighting, street trees, trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan.
- e. Construction and development of transit stops/shelters, pedestrian access, way finding signage, and lighting around transit stops per transit agency plans or negotiated improvements.
- f. Direct on-site sales of transit passes purchased and sold at a bulk group rate (through programs such as AC Transit Easy Pass or a similar program through another transit agency).
- g. Employees or residents can be provided with a subsidy, determined by the property owner and subject to review by the City, if the employees or residents use transit or commute by other alternative modes.
- h. Provision of shuttle service between the development and nearest mass transit station, or ongoing contribution to existing shuttle or public transit services.
- i. Guaranteed ride home program for employees, either through 511.org or through separate program.
- j. Pre-tax commuter benefits (commuter checks) for employees.
- k. Free designated parking spaces for on-site car-sharing program (such as City Car Share, Zip Car, etc.) and/or car-share membership for employees or tenants.
- l. Onsite carpooling and/or vanpooling program that includes preferential (discounted or free) parking for carpools and vanpools.
- m. Distribution of information concerning alternative transportation options.
- n. Parking spaces sold/leased separately for residential units. Charge employees for parking, or provide a cash incentive or transit pass alternative to a free parking space in commercial properties.
- o. Parking management strategies; including attendant/valet parking and shared parking spaces.
- p. Requiring tenants to provide opportunities and the ability to work off-site.
- q. Allow employees or residents to adjust their work schedule in order to complete the basic work requirement of five eight-hour workdays by adjusting their schedule to reduce vehicle trips to the worksite.
- r. Provide or require tenants to provide employees with staggered work hours involving a shift in the set work hours of all employees at the workplace or flexible work hours involving individually determined work hours.

The property owner shall submit an annual compliance report for review and approval by the City. This report will be reviewed either by City staff (or a peer review consultant, chosen by the City and paid for by the property owner). If timely reports are not submitted, the reports indicate a failure to achieve the stated policy goals, or the required alternative

mode split is still not achieved, staff will work with the property owner to find ways to meet their commitments and achieve trip reduction goals. If the issues cannot be resolved, the matter may be referred to the Planning Commission for resolution. Property owners shall be required, as a condition of approval, to reimburse the City for costs incurred in maintaining and enforcing the trip reduction program for the approved project.

- **SCA 33: Construction Traffic and Parking**

Prior to the issuance of a demolition, grading or building permit. The project applicant and construction contractor shall meet with appropriate City of Oakland agencies to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of this project and other nearby projects that could be simultaneously under construction. The project applicant shall develop a construction management plan for review and approval by the Planning and Zoning Division, the Building Services Division, and the Transportation Services Division. The plan shall include at least the following items and requirements:

- a. A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes.
- b. Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.
- c. Location of construction staging areas for materials, equipment, and vehicles at an approved location.
- d. A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. The manager shall determine the cause of the complaints and shall take prompt action to correct the problem. Planning and Zoning shall be informed who the Manager is prior to the issuance of the first permit issued by Building Services.
- e. Provision for accommodation of pedestrian flow.

Major Project Cases:

- a. Provision for parking management and spaces for all construction workers to ensure that construction workers do not park in on-street spaces (see item “p” below).
- b. Any damage to the street caused by heavy equipment, or as a result of this construction, shall be repaired, at the applicant’s expense, within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to issuance of a final inspection of the building permit. All damage that is a threat to public health or safety shall be repaired immediately. The street shall be restored to its condition prior to the new construction as established by the City Building Inspector and/or photo documentation, at the applicant’s expense, before the issuance of a Certificate of Occupancy.
- c. Any heavy equipment brought to the construction site shall be transported by truck, where feasible.
- d. No materials or equipment shall be stored on the traveled roadway at any time.
- e. Prior to construction, a portable toilet facility and a debris box shall be installed on the site, and properly maintained through project completion.
- f. All equipment shall be equipped with mufflers.

- g. Prior to the end of each work day during construction, the contractor or contractors shall pick up and properly dispose of all litter resulting from or related to the project, whether located on the property, within the public rights-of-way, or properties of adjacent or nearby neighbors.

4.13.3 Impacts and Mitigation Measures

This section evaluates the project's potential adverse effects related to transportation, circulation and parking, and it considers vehicles, bicycles and pedestrians. Traffic impacts are assessed on the study roadway segments in the study area under the following scenarios:

- Existing Plus Project
- Cumulative Year 2015 Plus Project
- Cumulative Year 2035 Plus Project

Following the roadway segment analysis, the project's potential effects on bus travel times; vehicle, pedestrian and bicycle safety; emergency access; and consistency with local plans, as well as temporary construction effects, are presented. Assessments of non-CEQA issues such as parking and transit ridership also are provided.

Significance Criteria

Because this environmental document analyzes the program-level impacts of development facilitated by the Proposed Amendments, the traffic impact analysis focuses on roadway segments, and significance criteria for roadway segments (Criteria 1 through 4 below) are applied. However, project-level criteria for intersection operations (Criteria 5 and 6) are also included to show how the level of significance for the previously identified impacted intersections (summarized in Table 4.13-8) was determined.

Program-Level Criteria (for "Study Roadway Segments")

1. At a study roadway segment located *within* the downtown area, a significant impact would occur if the LOS would degrade from an acceptable LOS (i.e., LOS E or better) to worse than LOS E (i.e., LOS F), or for a study roadway segment located *outside* the downtown area, a significant impact would occur if the LOS would degrade from an acceptable LOS (i.e., LOS D or better) to worse than LOS D (i.e., LOS E or F) as a result of the development facilitated by the Proposed Amendments;
2. At a study roadway segment located *within* the downtown area where the no-project LOS would be worse than LOS E (i.e., LOS F), or for a study roadway segment located *outside* the downtown area where the LOS would be worse than LOS D (i.e., LOS E or F), a significant impact would occur if the project would increase the v/c ratio (compared to the no-project condition) by more than 0.03;
3. For a Congestion Management Program (CMP) required analysis, (i.e., projects that would generate 100 or more peak-hour trips), a significant impact would occur if the project would cause a roadway segment on the Metropolitan Transportation System (MTS) to operate at LOS F, or increase the v/c ratio by more than 0.03 for a roadway segment that would operate at LOS F without the project;

4. A plan's contribution to cumulative impacts is considered "considerable" (i.e., significant) when the plan exceeds at least one of the segment thresholds listed above in Criteria #1 through #3 for years 2015 or 2035.

Project-Level Criteria (for Intersections Previously-Identified with Unacceptable LOS)⁷

The project would have a significant impact on the environment if it would:

5. Cause an increase in traffic which is substantial in relation to the traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity (v/c) ratio on roads, or congestion at intersections), or change the condition of an existing street (e.g., street closures, changing direction of travel) in a manner that would substantially impact access or traffic load and capacity of the street system, as defined below:
 - a. at a study, signalized intersection which is located outside the downtown⁸ area, the project would cause the LOS to degrade to worse than LOS D (i.e., LOS E);
 - b. at a study, signalized intersection which is located within the downtown area, the project would cause the LOS to degrade to worse than LOS E (i.e., LOS F);
 - c. at a study, signalized intersection outside the downtown area where the level of service is LOS E, the project would cause the total intersection average vehicle delay to increase by four or more seconds, or degrade to worse than LOS E (i.e., LOS F);
 - d. at a study, signalized intersection for all areas where the level of service is LOS E, the project would cause an increase in the average delay for any of the critical movements of six seconds or more, or degrade to worse than LOS E (i.e., LOS F);
 - e. at a study, signalized intersection for all areas where the level of service is LOS F, the project would cause
 - The total intersection average vehicle delay to increase by two or more seconds, or
 - An increase in average delay for any of the critical movements of four seconds or more; or
 - The v/c ratio to increase by three percent (but only if the delay values cannot be measured accurately);
 - f. at a study, unsignalized intersection for all areas, the project would add ten or more vehicles and after project completion satisfy the Caltrans peak-hour volume warrant;
 - g. A project's contribution to cumulative impacts is considered "considerable" (i.e., significant) when the project exceeds at least one of the intersection-related thresholds listed above for years 2015 or 2035.

⁷ Although not legally required to analyze project-related impact for this EIR, the City nevertheless analyzed certain intersections ("impacted intersections") which were previously found to have significant unavoidable impacts from recently published EIRs, or other traffic impact analyses that has been completed, in order to provide more information about potential traffic-related impacts and if appropriate to provide CEQA clearance for qualifying future development projects that are consistent with the adopted Proposed Amendments to the Central District Development Plan and this EIR, pursuant to CEQA Guidelines sections 15183, 15162-15164, and 15168. See page 4.13-17 for a more detailed discussion.

⁸ Downtown is defined in the Land Use and Transportation Element of the General Plan (page 67) as the area generally bounded by West Grand Avenue to the north, Lake Merritt and Channel Park to the east, the Oakland Estuary to the south and I-980/Brush Street to the west.

Other CEQA Thresholds

6. Result in substantially increased travel times for AC Transit buses;
7. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
8. Substantially increase traffic hazards to motor vehicles, bicycles, or pedestrians due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
9. Result in fewer than two emergency access routes for streets exceeding 600 feet in length unless otherwise determined to be acceptable by the Fire Chief, or his/her designee, in specific instances due to climatic, geographic, topographic, or other conditions;
10. Fundamentally conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities;
11. Have a significant, though temporary, impact on the environment caused by construction traffic from the project, or if project construction would substantially affect traffic flow and circulation, parking, and pedestrian safety.

Approach to Analysis

Development facilitated by the Proposed Amendments is assumed to result in the following projects that would generate traffic:

- Broadway-Valdez District, Valdez Triangle Alternative 3 would include about 1.1 million square feet of commercial/retail space, 752 multi-family dwelling units, and a 150,000 square-foot hotel in the area bound by Broadway, 27th Street, Harrison Street, and 23rd Street.
- Victory Court would consist of a 39,000-seat ballpark, and up to 180,000 square feet of retail, 540,000 square feet of office, and 700 multi-family dwelling units in the area approximately bound by Oak Street, I-880, Lake Merritt Channel, and the railroad tracks.
- 1800 San Pablo Avenue would consist of 110,000 square feet of retail
- About 608 additional dwelling units throughout the Project Area. This analysis assumes that these units would be distributed throughout the Project Area proportional to the approved and pre-development housing units identified in the City of Oakland *Housing Element 2007-2014*.

The project would consist of multiple developments comprising a variety of uses dispersed throughout the study area. A regional travel forecasting model (Travel Demand Model) developed by ACCMA was used to evaluate traffic impacts. The ACCMA Model was selected as the appropriate tool to estimate the traffic generated by the project and its impacts on the study roadway segments. The ACCMA Model accounts for the interaction between the various components of the project and other residential, commercial, and office uses in the study area and

vicinity. The ACCMA Model also accounts for the transit service (AC Transit, BART, Ferry and Amtrak) provided in the project study area.

The ACCMA Model was executed for both the “no project” and “plus project” scenarios. The land uses for each scenario were modified to represent conditions under that scenario. The “no project” conditions include land uses expected without the project, and the “plus project” includes the “no project” land uses plus the project’s land use. Appendix E-3 summarizes the land uses for both scenarios. Traffic impacts on roadway segments were assessed based on comparing, traffic volumes as forecasted by the ACCMA Model for the “no project” and “plus project” scenarios.

The ACCMA Model forecasts traffic for the weekday AM and PM peak commute hours. It only includes land uses that generate traffic on weekdays. Therefore, it does not include the ballpark proposed as part of the Victory Court development. The ACCMA model includes all other project components described above. Potential impacts associated with the ballpark are qualitatively described later in this chapter.

Existing Plus Project Conditions

Existing Plus Project Traffic Volumes

As previously described, the ACCMA Model was executed for both the “no project” and “plus project” scenarios. The difference between the “plus project” and “no project” scenarios is identified as the project’s generated traffic. Traffic volumes under Existing Plus Project conditions were estimated by adding the project’s generated traffic (the difference between the “plus project” and “no project” ACCMA model scenarios) to the existing traffic counts. Appendix E-2 presents the traffic volumes for Existing Plus Project conditions.

Existing Plus Project Roadway Operations

Roadway operations under Existing Plus Project conditions were evaluated for the weekday AM and PM peak hours on the study roadway segments. The Existing Plus Project traffic volumes and the existing number of lanes were used as inputs. **Table 4.13-10** summarizes LOS on the study street segments. Appendix E-2 provides the LOS calculations.

The following roadway segments, located outside the downtown area, would experience unacceptable LOS during one or both peak hours under Existing Plus Project conditions:

- #15. Eastbound Grand Avenue between Harrison Street and I-580 would continue to operate at LOS E during the PM peak hour, and the v/c ratio would increase by 0.04.
- #18. Eastbound Embarcadero east of 5th Avenue would degrade from LOS E under Existing Conditions to LOS F under Existing Plus Project conditions during the PM peak hour

All other study roadway segments would operate at LOS D or better during both peak hours.

**TABLE 4.13-10
SUMMARY OF EXISTING PLUS PROJECT ROADWAY SEGMENT LEVELS OF SERVICE (LOS)**

	Roadway Segment	Downtown?	Direction ^a	Existing Conditions				Existing Plus Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				V/C Ratio	LOS ^b	V/C Ratio	LOS ^b	V/C Ratio	LOS ^b	V/C Ratio	LOS ^b
1	5th Street west of Broadway	Yes	EB	0.34	C	0.49	D	0.35	C	0.51	D
2	6th Street west of Broadway	Yes	WB	0.15	C	0.11	C	0.16	C	0.12	C
3	7th Street east of Mandela Parkway	No	EB	0.15	C	0.28	C	0.17	C	0.29	C
			WB	0.35	C	0.27	C	0.35	C	0.28	C
4	7th Street west of Clay Street	Yes	EB	0.20	C	0.27	C	0.21	C	0.27	C
5	8th Street west of Broadway	Yes	WB	0.17	C	0.18	C	0.17	C	0.21	C
6	7th Street east of Fallon Street	Yes	EB	0.49	D	0.82	D	0.49	D	0.86	D
			WB	0.47	D	0.30	C	0.48	D	0.33	C
7	11th Street west of Broadway	Yes	EB	0.19	C	0.24	C	0.19	C	0.24	C
8	11th Street west of Oak Street	Yes	EB	0.14	C	0.44	D	0.16	C	0.47	D
9	12th Street west of Broadway	Yes	WB	0.24	C	0.30	C	0.25	C	0.32	C
10	12th Street west of Oak Street	Yes	WB	0.48	D	0.31	C	0.49	D	0.33	C
11	East 12th Street east of 5th Avenue	No	EB	0.21	C	0.29	C	0.23	C	0.30	C
			WB	0.31	C	0.22	C	0.40	C	0.22	C
12	14th Street west of Oak Street	Yes	EB	0.16	C	0.21	C	0.17	C	0.21	C
			WB	0.20	C	0.25	C	0.21	C	0.26	C
13	14th Street west of Broadway	Yes	EB	0.21	C	0.51	D	0.24	C	0.54	D
			WB	0.48	D	0.33	C	0.50	D	0.35	C
14	West Grand Avenue west of Martin Luther King Way	No	EB	0.28	C	0.38	C	0.31	C	0.40	C
			WB	0.26	C	0.27	C	0.26	C	0.28	C
15	Grand Ave. between Harrison St and I-580	No	EB	0.29	C	0.91	E	0.31	C	0.95	E
			WB	0.72	D	0.47	D	0.75	D	0.57	D
16	27th Street west of Harrison Street	No	EB	0.12	C	0.20	C	0.12	C	0.22	C
			WB	0.19	C	0.18	C	0.23	C	0.19	C
17	Embarcadero east of Oak Street	Yes	EB	0.08	C	0.25	C	0.11	C	0.33	C
			WB	0.35	C	0.33	C	0.47	C	0.45	C
18	Embarcadero east of 5th Avenue	No	EB	0.45	C	0.99	E	0.49	C	1.12	F
			WB	0.55	C	0.65	C	0.65	C	0.76	D

TABLE 4.13-10 (Continued)
SUMMARY OF EXISTING PLUS PROJECT ROADWAY SEGMENT LEVELS OF SERVICE (LOS)

	Roadway Segment	Downtown?	Direction ^a	Existing Conditions				Existing Plus Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				V/C Ratio	LOS ^b	V/C Ratio	LOS ^b	V/C Ratio	LOS ^b	V/C Ratio	LOS ^b
19	San Pablo Ave. north of West Grand Ave.	No	NB SB	0.21 0.20	C C	0.33 0.21	C C	0.22 0.21	C C	0.38 0.22	C C
20	Broadway north of Grand Avenue	No	NB SB	0.30 0.28	C C	0.42 0.34	D C	0.34 0.38	C C	0.51 0.39	D C
21	Broadway north of 8th Street	Yes	NB SB	0.38 0.26	C C	0.32 0.44	C D	0.41 0.28	D C	0.37 0.48	C D
22	Harrison Street north of Grand Avenue	No	NB SB	0.28 0.24	C C	0.43 0.20	C C	0.29 0.25	C C	0.44 0.21	C C
23	Jackson Street north of 7th Street	Yes	NB SB	0.38 0.44	D D	0.27 0.48	C D	0.47 0.47	D D	0.38 0.52	D D
24	Madison Street north of 8th Street	Yes	SB	0.23	C	0.36	C	0.28	C	0.44	D
25	Oak Street north of 8th Street	Yes	NB	0.28	C	0.21	C	0.28	C	0.24	C
26	5th Avenue south of East 12th Street	No	NB SB	0.24 0.34	C C	0.40 0.27	C C	0.29 0.37	C C	0.47 0.36	C C
27	Franklin Street, south of 20th Street	Yes	NB	0.10	C	0.21	C	0.12	C	0.22	C
28	Webster Street, north of 20th Street	Yes	SB	0.21	C	0.25	C	0.22	C	0.29	C
29	SR-260 (Posey and Webster Tubes) at Oakland City Limit	No	NB SB	0.57 0.41	C B	0.48 0.72	B C	0.58 0.41	C B	0.50 0.74	B C
30	I-880 at 16th Avenue overcrossing	No	WB EB	0.75 0.78	D D	0.86 0.86	D D	0.76 0.79	D D	0.87 0.88	D D
31	I-880 between Market Street and I-980	No	WB EB	0.44 0.37	B B	0.41 0.38	B B	0.45 0.37	B B	0.42 0.38	B B
32	I-980 at 14th Street overcrossing	No	NB SB	0.57 0.53	C B	0.80 0.34	D B	0.59 0.54	C C	0.82 0.35	D B

Roadway segments operating at unacceptable levels are shown in **bold**.

^a EB = Eastbound, NB = Northbound, SB = Southbound, and WB = Westbound.

^b Based on FDOT roadway segment LOS thresholds.

SOURCE: Fehr & Peers, 2010.

Existing Plus Project Impacts and Mitigations

Impact TRA-1: Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Existing Plus Project conditions. (Significant)

The development facilitated by the Proposed Amendments would increase traffic volumes on area roads, which would cause a significant impact at the following two locations:

- a. Eastbound Grand Avenue between Harrison Street and I-580 (#15) during the PM peak hour because the project would increase the v/c ratio by more than 0.03 on a roadway segment outside the downtown area that would operate at LOS E regardless of the project.
- b. Eastbound Embarcadero east of 5th Avenue (#18) during the PM peak hour because the project would degrade traffic operations from LOS E to LOS F and increase the v/c ratio by more than 0.03 on a roadway segment outside the downtown area.

Mitigation Measure TRA-1: In general, roadway impacts can be mitigated by widening the roadway and providing additional travel lanes. However, providing additional travel lanes is not feasible and/or desired in most locations in Oakland because it would require additional right-of-way that is not available due to buildings adjacent to the roadway and/or elimination of parking or bicycle lanes. Potential mitigation measures for the impacted segments are discussed below:

- a. The impact on Grand Avenue between Harrison Street and I-580 (#15) may not be mitigated. This segment of Grand Avenue generally provides two travel lanes in each direction, with left-turn pockets, and bicycle lanes and parking on both sides of the street. The area adjacent to the street is occupied by buildings or parks. Providing additional travel lanes would require elimination of parking, bicycle lanes, existing buildings or parks, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.
- b. The impact on Embarcadero east of 5th Avenue (#18) may be mitigated by widening Embarcadero from one lane to two lanes between 4th and 10th Avenues. This improvement has been identified and adopted by the City as a mitigation measure in the Oak to Ninth EIR. The implementation of this mitigation measure would improve the roadway segment to LOS C and mitigate the impact.

A specific development project's contribution to a significant roadway segment or intersection impact, and the feasibility and effectiveness of mitigation measures, can only be determined on a site-by-site or case-by-case basis, which is outside the scope of this environmental analysis. Therefore, the following mitigation measures shall be implemented to mitigate potential traffic impacts of development under the Proposed Amendments:

- ***TRA-1.1 Traffic Impact Study (TIS) for Development Projects*** – Prior to approval of a development application for a development project, which may substantially affect any roadway segment or intersection identified as having a significant impact, the project applicant shall retain a qualified traffic engineer to conduct a Traffic Impact Study (TIS), in accordance with then-current City policies and practices, to identify whether the project would contribute additional vehicular trips to a significant traffic impact on a study roadway segment(s) or intersection(s).

The TIS shall be performed in accordance with then-current City policies and practices, and shall generally identify:

1. The number of trips generated by development facilitated by the Proposed Amendments
 2. The mode split for vehicular trips (i.e., the number of generated trips that would be made by private vehicle)
 3. The distribution of vehicular trips on local roadways
 4. Based on a quantitative evaluation of the information provided under 1 through 3, above, the City shall make a significance determination of the traffic impact(s) to roadway segment(s) or intersection(s) resulting from the development facilitated by the Proposed Amendments
 5. If the level of impact identified under 4 above would be significant, then Mitigation Measure TRA-1.2 shall be employed.
- ***TRA-1.2 Other Mitigations*** – Depending on the results of the TIS conducted in TRA-1.1, where TRA-1.1 is required to be implemented, the project applicant's traffic engineer shall evaluate the feasibility of the following broad measures at the roadway segment(s) or intersection(s) identified in TRA-1.1 above, and implement those measures determined feasible by the City:⁹
 1. Install new traffic signals and other roadway improvements that support not only vehicle travel, but all other modes safely to and through the intersection
 2. Modify signal operation or phasing
 3. Change lane assignment
 4. Install bike and pedestrian facilities
 5. Optimize signal timing (i.e., adjust the allocation of green time for each intersection approach) for the peak hours
 6. Coordinate the signal timing changes with the adjacent intersections that are in the same signal coordination group.

To implement those measures determined feasible by the City, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- Plans, Specifications, and Estimates (PS&E) to modify the intersection. All elements shall be designed to City standards in effect at the time of construction and all new or upgraded signals should include these enhancements. All other facilities supporting vehicle travel and alternative modes through the intersection should be brought up to both City standards and Americans with Disabilities Act (ADA) standards (according to Federal and State Access Board guidelines) at the time of construction.

Current City Standards include the elements listed below:

⁹ The City already requires as a Standard Condition of Approval (SCA-25), the development of a Transportation Demand Management (TDM) Plan for developments with 50 or more residential units or 50,000 square feet or more of new non-residential space.

- 2070L Type Controller with Cabinet Assembly and License seat
- GPS communication (clock)
- Accessible pedestrian crosswalks according to Federal and State Access Board guidelines
- City Standard ADA wheelchair ramps
- Full actuation (video detection, pedestrian push buttons, bicycle detection)
- Accessible Pedestrian Signals, audible and tactile according to Federal Access Board guidelines
- Countdown Pedestrian Signals
- Signal interconnect and communication to City Traffic management Center for corridors identified in the City's Intelligent Transportation System (ITS) Master Plan
- Signal timing plans for the signals in the coordination group.

The project sponsor shall fund, prepare, and install the approved plans and improvements.

Mitigation Measures TRA-1.1 and TRA-1.2 would be applied by the City on a development project (case-by-case) basis, as appropriate. Incorporation of Mitigation Measures TRA-1.1 and TRA-1.2 would likely reduce impacts to congested roadway segment(s) and/or intersection(s). The impact on Embarcadero east of 5th Avenue (#18) may be mitigated by widening the street as identified and adopted in the Oak to 9th EIR. The impact on all other roadway segments identified for Grand Avenue would likely remain significant and unavoidable. A more detailed project-specific quantitative analysis of Mitigation Measures TRA-1.1 and TRA-1.2 and identification of more specific mitigation measures are not feasible in this programmatic EIR at this time; therefore, it is conservatively concluded that these mitigation measures would not mitigate the identified significant impacts to a less-than-significant level, and that impacts would remain significant and unavoidable. Therefore, this EIR conservatively identifies impacts on roadway segments as significant and unavoidable impacts.

Significance after Mitigation: Significant and Unavoidable.

Cumulative Year 2015 Conditions

This section addresses potential impacts caused by development facilitated by the Proposed Amendments on the study roadway segments in 2015. Although not all components of the project are expected to be complete by 2015, this section analyzes the impacts of the full project to present a worst-case analysis.

Cumulative Year 2015 Traffic Forecasts

The traffic volume forecasts were developed using the ACCMA Model and existing traffic counts. The main inputs to the 2015 forecasting process are the model outputs from a modified version of

the ACCMA Model (with updated land use) and the existing traffic counts. The base land use data in the ACCMA Model was modified to reflect more accurate land use projections in the City of Oakland. The modifications to the model land use database are described in Appendix E-3.

As described above, the ACCMA Model was executed for both the “no project” and “plus project” scenarios. The ACCMA Model produces roadway segment volumes. The “difference” method, which increases existing traffic volumes to reflect model-forecasted increases in roadway segment volumes, was applied to these forecasted segment volumes. Appendix E-2 presents the traffic volumes for both the Cumulative Year 2015 No Project and the Cumulative Year 2015 Plus Project conditions.

Roadway Network

The Cumulative Year 2015 analyses assume that the following would be completed:

- Caldecott Tunnel fourth bore
- 27th Street bikeway
- Webster/Franklin bikeways
- Measure DD improvements on 12th Street and Lakeside Drive
- Washington Street bike lanes
- 10th Street bike lanes
- Embarcadero Bridge replacement bike detour

No other improvements were assumed for this analysis.

Cumulative Year 2015 No Project Roadway Operations

Roadway operations under Cumulative Year 2015 No Project conditions were evaluated for the weekday AM and PM peak hours on the study roadway segments. The Cumulative Year 2015 No Project traffic volumes and number of lanes were used as inputs. **Table 4.13-11** summarizes LOS on the study street segments. Appendix E-2 provides the LOS calculations.

The following roadway segments, located outside the downtown area, would experience unacceptable LOS during one or both peak hours under Cumulative Year 2015 No Project conditions:

- #15. Eastbound Grand Avenue between Harrison Street and I-580 would operate at LOS E during the PM peak hour.
- #18. Eastbound Embarcadero east of 5th Avenue would operate at LOS F during the PM peak hour.
- #28. Both eastbound and westbound I-880 at the 16th Avenue Overcrossing would operate at LOS E during the PM peak hour.

All other study roadway segments would operate at LOS D or better during both peak hours.

**TABLE 4.13-11
SUMMARY OF CUMULATIVE YEAR 2015 PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE (LOS)**

	Roadway Segment	Downtown?	Direction ^a	2015 No Project Conditions				2015 Plus Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				V/C Ratio	LOS ^b	V/C Ratio	LOS ^b	V/C Ratio	LOS ^b	V/C Ratio	LOS ^b
1	5th Street west of Broadway	Yes	EB	0.39	C	0.51	D	0.40	C	0.53	D
2	6th Street west of Broadway	Yes	WB	0.18	C	0.16	C	0.18	C	0.17	C
3	7th Street east of Mandela Parkway	No	EB	0.20	C	0.42	C	0.22	C	0.43	C
			WB	0.44	C	0.33	C	0.45	C	0.34	C
4	7th Street west of Clay Street	Yes	EB	0.24	C	0.36	C	0.25	C	0.36	C
5	8th Street west of Broadway	Yes	WB	0.28	C	0.24	C	0.28	C	0.27	C
6	7th Street east of Fallon Street	Yes	EB	0.52	D	0.99	E	0.53	D	1.02	F
			WB	0.61	D	0.34	C	0.62	D	0.37	C
7	11th Street west of Broadway	Yes	EB	0.21	C	0.27	C	0.21	C	0.28	C
8	11th Street west of Oak Street	Yes	EB	0.17	C	0.50	D	0.19	C	0.54	D
9	12th Street west of Broadway	Yes	WB	0.30	C	0.35	C	0.32	C	0.37	C
10	12th Street west of Oak Street	Yes	WB	0.49	D	0.37	C	0.49	D	0.39	C
11	East 12th Street east of 5th Avenue	No	EB	0.25	C	0.36	C	0.27	C	0.36	C
			WB	0.37	C	0.28	C	0.47	C	0.28	C
12	14th Street west of Oak Street	Yes	EB	0.18	C	0.25	C	0.19	C	0.25	C
			WB	0.24	C	0.26	C	0.25	C	0.28	C
13	14th Street west of Broadway	Yes	EB	0.28	C	0.58	D	0.31	C	0.60	D
			WB	0.55	D	0.35	C	0.58	D	0.37	C
14	West Grand Avenue west of Martin Luther King Way	No	EB	0.32	C	0.48	C	0.35	C	0.50	C
			WB	0.36	C	0.34	C	0.37	C	0.36	C
15	Grand Avenue between Harrison Street and I-580	No	EB	0.34	C	0.99	E	0.35	C	1.04	F
			WB	0.84	D	0.52	D	0.87	D	0.62	D
16	27th Street west of Harrison Street	No	EB	0.21	C	0.43	C	0.21	C	0.45	C
			WB	0.37	C	0.34	C	0.42	C	0.34	C
17	Embarcadero east of Oak Street	Yes	EB	0.13	C	0.30	C	0.15	C	0.38	C
			WB	0.48	C	0.45	C	0.59	C	0.59	C
18	Embarcadero east of 5th Avenue	No	EB	0.53	C	1.01	F	0.58	C	1.13	F
			WB	0.69	D	0.83	D	0.79	D	0.93	D
19	San Pablo Avenue north of West Grand Avenue	No	NB	0.29	C	0.41	C	0.30	C	0.46	C
			SB	0.29	C	0.27	C	0.29	C	0.28	C

TABLE 4.13-11 (Continued)
SUMMARY OF CUMULATIVE YEAR 2015 PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE (LOS)

	Roadway Segment	Downtown?	Direction ^a	2015 No Project Conditions				2015 Plus Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				V/C Ratio	LOS ^b	V/C Ratio	LOS ^b	V/C Ratio	LOS ^b	V/C Ratio	LOS ^b
20	Broadway north of Grand Avenue	No	NB SB	0.36 0.38	C C	0.50 0.38	D C	0.41 0.48	D D	0.59 0.44	D D
21	Broadway north of 8th Street	No	NB SB	0.42 0.28	D C	0.34 0.46	C D	0.46 0.30	D C	0.38 0.51	C D
22	Harrison Street north of Grand Avenue	Yes	NB SB	0.31 0.28	C C	0.50 0.22	C C	0.32 0.29	C C	0.50 0.23	C C
23	Jackson Street north of 7th Street	No	NB SB	0.48 0.44	D D	0.29 0.49	C D	0.57 0.48	D D	0.41 0.53	D D
24	Madison Street north of 8th Street	Yes	SB	0.27	C	0.38	C	0.33	C	0.47	D
25	Oak Street north of 8th Street	Yes	NB	0.32	C	0.23	C	0.32	C	0.26	C
26	5th Avenue south of East 12th Street	Yes Yes	NB SB	0.31 0.42	C C	0.51 0.34	C C	0.36 0.47	C C	0.58 0.43	C C
27	Franklin Street, south of 20th Street	Yes	NB	0.17	C	0.42	D	0.20	C	0.42	D
28	Webster Street, north of 20th Street	Yes	SB	0.40	D	0.41	D	0.42	D	0.47	D
29	SR-260 (Posey and Webster Tubes) at Oakland City Limit	No	NB SB	0.61 0.48	C B	0.51 0.75	B C	0.62 0.48	C B	0.53 0.76	B D
30	I-880 at 16th Avenue overcrossing	No	WB EB	0.79 0.82	D D	0.90 0.89	E E	0.80 0.83	D D	0.90 0.91	E E
31	I-880 between Market Street and I-980	No	WB EB	0.47 0.38	B B	0.43 0.40	B B	0.48 0.38	B B	0.44 0.41	B B
32	I-980 at 14th Street overcrossing	No	NB SB	0.59 0.53	C B	0.81 0.35	D B	0.60 0.54	C C	0.83 0.36	D B

Roadway segments operating at unacceptable levels are shown in **bold**.

^a EB = Eastbound, NB = Northbound, SB = Southbound, and WB = Westbound.

^b Based on FDOT roadway segment LOS thresholds.

SOURCE: Fehr & Peers, 2010.

Cumulative Year 2015 Plus Project Roadway Operations

Roadway operations under Cumulative Year 2015 Plus Project conditions were evaluated for the weekday AM and PM peak hours on the study roadway segments. The Cumulative Year 2015 Plus Project traffic volumes and number of lanes were used as inputs. Table 4.13-11 summarizes LOS on the study street segments. Appendix E-3 provides the LOS calculations.

The following roadway segments would experience unacceptable LOS during one or both peak hours under Cumulative Year 2015 Plus Project conditions:

Inside the downtown area:

- #6. Eastbound 7th Street east of Fallon Street would degrade from LOS E under Cumulative Year 2015 No Project conditions to LOS F under Cumulative Year 2015 Plus Project during the PM peak hour.

Outside the downtown area:

- #15. Eastbound Grand Avenue between Harrison Street and I-580 would degrade from LOS E under Cumulative Year 2015 No Project conditions to LOS F under Cumulative Year 2015 Plus Project during the PM peak hour.
- #18. Eastbound Embarcadero east of 5th Avenue would continue to operate at LOS F during the PM peak hour, and the v/c ratio would increase by 0.12.
- #28. Both eastbound and westbound I-880 at the 16th Avenue Overcrossing would continue to operate at LOS E during the PM peak hour; the v/c ratio would not change in the eastbound direction and it would increase by 0.02 in the westbound direction.

All other study roadway segments would operate at LOS D or better during both peak hours.

The project would not cause a significant impact on I-880 at the 16th Avenue Overcrossing because the roadway segment would operate at LOS E regardless of the project, and the project would not increase the v/c ratio by more than 0.03.

Cumulative Year 2015 Plus Project Impacts and Mitigations

Impact TRA-2: Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Cumulative Year 2015 Plus Project conditions. (Significant)

Development facilitated by the Proposed Amendments would increase traffic volumes on area roads, which would cause a significant impact at the following two locations:

- a. Eastbound 7th Street east of Fallon Street (#6) during the PM peak hour because the project would degrade traffic operations from LOS E to LOS F and increase the v/c ratio by more than 0.03 on a roadway segment inside the downtown area.
- b. Eastbound Grand Avenue between Harrison Street and I-580 (#15) during the PM peak hour because the project would degrade traffic operations from LOS E to LOS F and increase the v/c ratio by more than 0.03 on a roadway segment outside the downtown area that would operate at LOS E regardless of the project.

- c. Eastbound Embarcadero east of 5th Avenue (#18) during the PM peak hour because the project would increase the v/c ratio by more than 0.03 on a roadway segment outside the downtown area that would operate at LOS F regardless of the project.

Mitigation Measure TRA-2: Implement Mitigation Measures TRA-1.1 and TRA-1.2.

Potential mitigation measures for the impacted segments are discussed below:

- a. The impact on 7th Street east of Fallon Street (#6) may not be mitigated. This segment of 7th Street generally provides two travel lanes in each direction, with a center median, and parking on both sides of the street. The area adjacent to the street is occupied by buildings or parking lots. Providing additional travel lanes would require elimination of parking, existing buildings or parking, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.
- b. The impact on Grand Avenue between Harrison Street and I-580 (#15) may not be mitigated. This segment of Grand Avenue generally provides two travel lanes in each direction, with left-turn pockets, and bicycle lanes and parking on both sides of the street. The area adjacent to the street is occupied by buildings or parks. Providing additional travel lanes would require elimination of parking, bicycle lanes, existing buildings or parks, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.
- c. The impact on Embarcadero east of 5th Avenue (#18) may be mitigated by widening Embarcadero from one lane to two lanes between 4th and 10th Avenues. This improvement has been identified and adopted by the City as a mitigation measure in the Oak to Ninth EIR. The implementation of this mitigation measure would improve the roadway segment to LOS C and mitigate the impact.

Mitigation Measures TRA-1.1 and TRA-1.2 would be applied by the City on a development project (case-by-case) basis, as appropriate. Incorporation of Mitigation Measures TRA-1.1 and TRA-1.2 would likely reduce impacts to congested roadway segment(s) and/or intersection(s). The impact on Embarcadero east of 5th Avenue (#18) may be mitigated by widening the street as identified and adopted in the Oak to 9th EIR. The impact on all other roadway segments identified for Grand Avenue and 7th Street would likely remain significant and unavoidable. A more detailed project-specific quantitative analysis of Mitigation Measures TRA-1.1 and TRA-1.2 and identification of more specific mitigation measures are not feasible in this programmatic EIR at this time; therefore, it is conservatively concluded that these mitigation measures would not mitigate the identified significant impacts to a less-than-significant level, and that impacts would remain significant and unavoidable. Therefore, this EIR conservatively identifies impacts on roadway segments as significant and unavoidable impacts.

Significance after Mitigation: Significant and Unavoidable.

Cumulative Year 2035 Conditions

This section addresses potential impacts caused by buildout of the project on the study roadway segments in 2035.

Cumulative Year 2035 Traffic Forecasts

The Cumulative Year 2035 traffic forecasts were developed using the same procedure as the Cumulative Year 2015 traffic forecasts. The only difference is that the 2035 roadway segment growth was not scaled down to an earlier analysis year. Appendix E-2 presents the traffic volumes for both the Cumulative Year 2035 No Project and the Cumulative Year 2035 Plus Project conditions.

Roadway Network

The Cumulative Year 2035 analyses assume the following would be completed:

- Caldecott Tunnel fourth bore
- 27th Street bikeway
- Webster/Franklin bikeways
- Measure DD improvements on 12th Street and Lakeside Drive
- Washington Street bike lanes
- 10th Street bike lanes
- Embarcadero Bridge replacement bike detour

No other improvements were assumed for this analysis.

Cumulative Year 2035 No Project Roadway Operations

Roadway operations under Cumulative Year 2035 No Project conditions were evaluated for the weekday AM and PM peak hours on the study roadway segments. The Cumulative Year 2035 No Project traffic volumes and number of lanes were used as inputs. **Table 4.13-12** summarizes LOS on the study street segments. Appendix E-2 provides the LOS calculations.

The following roadway segments would experience unacceptable LOS during one or both peak hours under Cumulative Year 2035 No Project conditions:

Inside the downtown area:

- #6. 7th Street east of Fallon Street would operate at LOS F in the westbound direction during the AM peak hour and in the eastbound direction during the PM peak hour.

Outside the downtown area:

- #3. Eastbound 7th Street east of Mandela Parkway would operate at LOS E during the PM peak hour.

TABLE 4.13-12
SUMMARY OF CUMULATIVE YEAR 2035 PLUS PROJECT ROADWAY SEGMENT LEVELS OF SERVICE (LOS)

	Roadway Segment	Downtown?	Direction ^a	2035 No Project Conditions				2035 Plus Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				V/C Ratio	LOS ^b	V/C Ratio	LOS ^b	V/C Ratio	LOS ^b	V/C Ratio	LOS ^b
1	5th Street west of Broadway	Yes	EB	0.60	D	0.57	D	0.61	D	0.59	D
2	6th Street west of Broadway	Yes	WB	0.28	C	0.39	C	0.29	C	0.39	C
3	7th Street east of Mandela Parkway	No	EB	0.43	C	0.97	E	0.45	C	0.98	E
			WB	0.84	D	0.59	C	0.86	D	0.60	C
4	7th Street west of Clay Street	Yes	EB	0.41	C	0.70	D	0.42	D	0.70	D
5	8th Street west of Broadway	Yes	WB	0.70	D	0.49	D	0.70	D	0.52	D
6	7th Street east of Fallon Street	Yes	EB	0.67	D	1.65	F	0.68	D	1.69	F
			WB	1.15	F	0.51	D	1.16	F	0.54	D
7	11th Street west of Broadway	Yes	EB	0.27	C	0.41	C	0.27	C	0.42	C
8	11th Street west of Oak Street	Yes	EB	0.30	C	0.77	D	0.31	C	0.81	D
9	12th Street west of Broadway	Yes	WB	0.54	D	0.56	D	0.55	D	0.58	D
10	12th Street west of Oak Street	Yes	WB	0.49	D	0.59	D	0.50	D	0.61	D
11	East 12th Street east of 5th Avenue	No	EB	0.41	C	0.63	C	0.43	C	0.64	C
			WB	0.64	C	0.51	C	0.73	D	0.52	C
12	14th Street west of Oak Street	Yes	EB	0.25	C	0.41	D	0.26	C	0.42	D
			WB	0.39	C	0.34	C	0.40	D	0.35	C
13	14th Street west of Broadway	Yes	EB	0.55	D	0.84	D	0.58	D	0.86	D
			WB	0.84	D	0.42	D	0.86	D	0.44	D
14	West Grand Avenue west of Martin Luther King Way	No	EB	0.47	C	0.89	D	0.50	C	0.91	D
			WB	0.79	D	0.63	C	0.79	D	0.65	C
15	Grand Avenue between Harrison Street and I-580	No	EB	0.53	D	1.36	F	0.55	D	1.41	F
			WB	1.34	F	0.74	D	1.36	F	0.84	D
16	27th Street west of Harrison Street	No	EB	0.37	C	0.93	D	0.37	C	0.94	D
			WB	0.67	C	0.59	C	0.72	D	0.60	C
17	Embarcadero east of Oak Street	Yes	EB	0.31	C	0.52	C	0.33	C	0.59	C
			WB	0.95	E	0.99	E	1.07	F	1.13	F
18	Embarcadero east of 5th Avenue	No	EB	0.87	D	1.06	F	0.91	D	1.17	F
			WB	1.22	F	1.56	F	1.33	F	1.66	F
19	San Pablo Avenue north of West Grand Avenue	No	NB	0.61	C	0.72	D	0.61	C	0.76	D
			SB	0.63	C	0.53	C	0.64	C	0.53	C

TABLE 4.13-12 (Continued)
SUMMARY OF CUMULATIVE YEAR 2035 PLUS PROJECT ROADWAY SEGMENT LEVELS OF SERVICE (LOS)

	Roadway Segment	Downtown?	Direction ^a	2035 No Project Conditions				2035 Plus Project			
				AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
				V/C Ratio	LOS ^b	V/C Ratio	LOS ^b	V/C Ratio	LOS ^b	V/C Ratio	LOS ^b
20	Broadway north of Grand Avenue	No	NB SB	0.60 0.75	D D	0.84 0.54	D D	0.64 0.85	D D	0.92 0.59	E D
21	Broadway north of 8th Street	No	NB SB	0.62 0.36	D C	0.40 0.56	D D	0.65 0.38	D C	0.45 0.61	D D
22	Harrison Street north of Grand Avenue	Yes	NB SB	0.43 0.44	C C	0.76 0.30	D C	0.44 0.45	C C	0.76 0.31	D C
23	Jackson Street north of 7th Street	No	NB SB	0.90 0.47	E D	0.41 0.53	D D	0.99 0.49	E D	0.52 0.56	D D
24	Madison Street north of 8th Street	Yes	SB	0.46	D	0.48	D	0.51	D	0.57	D
25	Oak Street north of 8th Street	Yes	NB	0.47	D	0.33	C	0.47	D	0.36	C
26	5th Avenue south of East 12th Street	No	NB SB	0.59 0.77	C D	0.99 0.62	E C	0.63 0.80	C D	1.06 0.71	F D
27	Franklin Street, south of 20th Street	Yes	NB	0.24	C	0.81	D	0.27	C	0.82	D
28	Webster Street, north of 20th Street	Yes	SB	0.76	D	0.52	D	0.78	D	0.58	D
29	SR-260 (Posey and Webster Tubes) at Oakland City Limit	No	NB SB	0.78 0.76	D D	0.67 0.86	C D	0.79 0.76	D D	0.69 0.88	C D
30	I-880 at 16th Avenue overcrossing	No	WB EB	0.94 0.99	E E	1.02 1.01	F F	0.95 1.00	E F	1.03 1.03	F F
31	I-880 between Market Street and I-980	No	WB EB	0.58 0.45	C B	0.52 0.51	B B	0.59 0.45	C B	0.53 0.51	C B
32	I-980 at 14th Street overcrossing	No	NB SB	0.64 0.55	C C	0.86 0.40	D B	0.65 0.57	C C	0.88 0.41	D B

Roadway segments operating at unacceptable levels are shown in **bold**.

^a EB = Eastbound, NB = Northbound, SB = Southbound, and WB = Westbound.

^b Based on FDOT roadway segment LOS thresholds.

SOURCE: Fehr & Peers, 2010.

- #15. Grand Avenue between I-580 and Harrison Street would operate at LOS F in the westbound direction during the AM peak hour and in the eastbound direction during the PM peak hour.
- #18. Embarcadero east of 5th Avenue would operate at LOS F in the westbound direction during the AM peak hour and in both eastbound and westbound directions during the PM peak hour.
- #26. Northbound 5th Avenue south of East 12th Street would operate at LOS E during the PM peak hour.
- #28. Both eastbound and westbound I-880 at the 16th Avenue Overcrossing would operate at LOS E during the AM peak hour and LOS F during the PM peak hour.

All other study roadway segments would operate at an acceptable LOS (LOS D or better outside the downtown Area, or LOS E or better within the downtown Area) during both peak hours.

Cumulative Year 2035 Plus Project Roadway Operations

Roadway operations under Cumulative Year 2035 Plus Project conditions were evaluated for the weekday AM and PM peak hours on the study roadway segments. The Cumulative Year 2035 Plus Project traffic volumes and number of lanes were used as inputs. Table 4.13-12 summarizes LOS on the study street segments. Appendix E-2 provides the LOS calculations.

The following roadway segments would experience unacceptable LOS during one or both peak hours under Cumulative Year 2035 Plus Project conditions:

Inside the downtown area:

- #6. 7th Street east of Fallon Street would continue to operate at LOS F in the westbound direction during the AM peak hour and in the eastbound direction during the PM peak hour; the v/c ratios would increase by 0.01 and 0.04, respectively.
- #17. Westbound Embarcadero east of Oak Street would degrade from LOS E to LOS F during both AM and PM peak hours, and the v/c ratio would increase by 0.12 and 0.14, respectively.

Outside the downtown area:

- #3. Eastbound 7th Street east of Mandela Parkway would continue to operate at LOS E during the PM peak hour, and the v/c ratio would increase by 0.01.
- #15. Grand Avenue between I-580 and Harrison Street would continue to operate at LOS F in the westbound direction during the AM peak hour and in the eastbound direction during the PM peak hour; the v/c ratios would increase by 0.02 and 0.05, respectively.
- #18. Embarcadero east of 5th Avenue would continue to operate at LOS F in the westbound direction during the AM peak hour and in both eastbound and westbound directions during the PM peak hour; the v/c ratios would increase by 0.11, 0.11, and 0.10, respectively.
- #20. Northbound Broadway north of Grand Avenue would degrade from LOS D to LOS E during the PM peak hour, and the v/c ratio would increase by 0.08.

- #26. Northbound 5th Avenue south of East 12th Street would degrade from LOS E to LOS F during the PM peak hour, and the v/c ratio would increase by 0.07.
- #28. Both eastbound and westbound I-880 at the 16th Avenue Overcrossing would continue to operate at LOS E during the AM peak hour and LOS F during the PM peak hour, and the v/c ratios would increase by 0.01 or 0.02 depending on the time period and direction.

All other study roadway segments would operate at an acceptable LOS (LOS D or better outside the downtown Area or LOS E or better within the downtown Area) during both peak hours.

Although they operate at an unacceptable LOS under the Cumulative Year 2035 No Project and Year 2035 Plus Project conditions, the project would not cause a significant impact on the following study roadway segments because it would not increase the v/c ratio by more than 0.03:

Inside the downtown area:

- #6. Westbound 7th Street east of Fallon Street during the AM peak hour.

Outside the downtown area:

- #3. Eastbound 7th Street east of Mandela Parkway during the PM peak hour.
- #15. Westbound Grand Avenue between I-880 and Harrison Street during the AM peak hour.
- #28. Eastbound and westbound I-880 at the 16th Avenue Overcrossing during both AM and PM peak hours.

Cumulative Year 2035 Plus Project Impacts and Mitigations

Impact TRA-3: Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Cumulative Year 2035 Plus Project conditions. (Significant)

Development facilitated by the Proposed Amendments would increase traffic volumes on area roads, which would cause a significant impact at the following six locations:

- a. Eastbound 7th Street east of Fallon Street (#6) during the PM peak hour because the project would increase the v/c ratio by more than 0.03 on a roadway segment inside the downtown area that would operate at LOS F regardless of the project.
- b. Eastbound Grand Avenue between Harrison Street and I-580 (#15) during the PM peak hour because the project would increase the v/c ratio by more than 0.03 on a roadway segment outside the downtown area that would operate at LOS F regardless of the project.
- c. Westbound Embarcadero east of Oak Street (#17) during both AM and PM peak hours because the project would degrade traffic operations from LOS E to LOS F on a roadway segment inside the downtown area.
- d. Embarcadero east of 5th Avenue (#18) in the eastbound direction during the PM peak hour and in the westbound Embarcadero during both AM and PM peak hours because the project

would increase the v/c ratio by more than 0.03 on a roadway segment outside the downtown area that would operate at LOS F regardless of the project.

- e. Northbound Broadway north of Grand Avenue (#20) during the PM peak hour because the project would degrade traffic operations from LOS D to LOS E on a roadway segment outside the downtown area.
- f. Northbound 5th Avenue south of East 12th Street (#26) during the PM peak hour because the project would degrade traffic operations from LOS E to LOS F and increase the v/c ratio by more than 0.03 on a roadway segment outside the downtown area.

Mitigation Measure TRA-3: Implement Mitigation Measures TRA-1.1 and TRA-1.2.

Potential mitigation measures for the impacted segments are discussed below:

- a. The impact on 7th Street east of Fallon Street (#6) may not be mitigated. This segment of 7th Street generally provides two travel lanes in each direction, with a center median, and parking on both sides of the street. The area adjacent to the street is occupied by buildings or parking lots. Providing additional travel lanes would require elimination of parking, existing buildings or parking, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.
- b. The impact on Grand Avenue between Harrison Street and I-580 (#15) may not be mitigated. This segment of Grand Avenue generally provides two travel lanes in each direction, with left-turn pockets, and bicycle lanes and parking on both sides of the street. The area adjacent to the street is occupied by buildings or parks. Providing additional travel lanes would require elimination of parking, bicycle lanes, existing buildings or parks, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.
- c. The impact on Embarcadero east of Oak Street (#17) may not be mitigated. This segment of Embarcadero provides two eastbound and one westbound travel lanes, with a center median, and bicycle lanes on both sides of the street. The area adjacent to the street is occupied by buildings, parking facilities, or railroad tracks. Providing additional travel lanes would require elimination of bicycle lanes, existing buildings or parks, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.
- d. The impact on Embarcadero east of 5th Avenue (#18) may be mitigated by widening Embarcadero from one lane to two lanes between 4th and 10th Avenues. This improvement has been identified and adopted by the City as a mitigation measure in the Oak to Ninth EIR. The implementation of this mitigation measure would improve the roadway segment to LOS C and mitigate the impact.
- e. The impact on Broadway north of Grand Avenue (#20) may not be mitigated. This segment of Broadway provides two travel lanes in each direction, with left-turn pockets and parking on both sides of the street. The area adjacent to the street is occupied by buildings. Providing additional travel lanes would require elimination of on-street parking or existing buildings, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.

- f. The impact on 5th Avenue south of East 12th Street (#26) may not be mitigated. This segment of 5th Avenue provides one travel lane in each direction, with bicycle lanes and parking on both sides of the street. The area adjacent to the street is mostly built up. Providing additional travel lanes would require elimination of bicycle lanes, on-street parking, or existing buildings, which are either not feasible or inconsistent with City policies. Therefore, the impact at this location would remain significant and unavoidable.

Mitigation Measures TRA-1.1 and TRA-1.2 would be applied by the City on a development project (case-by-case) basis, as appropriate. Incorporation of Mitigation Measures TRA-1.1 and TRA-1.2 would likely reduce impacts to congested roadway segment(s) and/or intersection(s). The impact on Embarcadero east of 5th Avenue (#18) may be mitigated by widening the street as identified and adopted in the Oak to 9th EIR. The impact on all other roadway segments identified for segments discussed and listed above would likely remain significant and unavoidable. A more detailed project-specific quantitative analysis of Mitigation Measures TRA-1.1 and TRA-1.2 and identification of more specific mitigation measures are not feasible in this programmatic EIR at this time; therefore, it is conservatively concluded that these mitigation measures would not mitigate the identified significant impacts to a less-than-significant level, and that impacts would remain significant and unavoidable. Therefore, this EIR conservatively identifies impacts on roadway segments as significant and unavoidable impacts.

Significance after Mitigation: Significant and Unavoidable.

Special Events

The Victory Court development, included at a programmatic level as part of the project, would include a 39,000-seat ballpark. The ballpark would host 81 Major League Baseball regular season games (and possible post-season games) and other special events that are not known at this time. There currently are not adequate details about a proposed ballpark project to provide a detailed project-level analysis. The level of analysis provided in this EIR is the most detailed that can be meaningfully provided at this time.

Impact TRA-4: Baseball games and other special events at the Victory Court ballpark would adversely affect the surrounding transportation network. (Significant)

The roadway segment impact analysis presented above accounts for project traffic regularly generated during typical weekday AM and PM commute periods. It does not account for potential impacts caused by the traffic generated by the proposed ballpark. Intersections along major corridors providing access to the ballpark such as 5th Avenue, Oak Street, Madison Street, Jackson Street, Broadway, Embarcadero, 4th Street, and 5th Street may be impacted. The ballpark would attract up to 39,000 people to the study area during events. People attending events at the ballpark would use the transportation network, including public transportation services and private automobile, serving the study area. The additional demand for public transportation services, and traffic generated by the project, is expected to adversely affect the transportation network in the Project Area. However, these adverse affects would only occur on days with

games or special events. The ballpark would not generate a noticeable amount of traffic on most days of the year.

Mitigation Measure TRA-4: Implement the following:

- ***Implement Mitigation Measures TRA-1.1.*** The impacts of events at the ballpark on the surrounding transportation network will be analyzed as part of the project-level environmental analysis for that project if and when a detailed proposal is before the City for consideration. This analysis will identify specific mitigation measures to reduce its impacts and to improve access and circulation for automobiles, transit, pedestrians, and bicycles.
- ***TRA-4.1 Prepare Special Event Transportation and Parking Management Plan*** – Prior to approval of the development applications for the proposed ballpark, prepare a Transportation and Parking Management Plan (TPMP) to minimize the impacts of special events at the ballpark on the surrounding transportation network. The TPMP shall include:
 - Strategies to manage traffic before and after special events
 - Identification of parking facilities and way-finding to minimize vehicles searching for available parking
 - Strategies to reduce automobile traffic generated by the project and encourage the use of public transit
 - Provision for additional transit service to serve the demand for the special events
 - Wayfinding for pedestrians and bicycles between the ballpark, major transportation nodes, and other destinations in the surrounding areas.

These strategies would likely reduce the magnitude of the impacts on the transportation network. However, it is not feasible to assess their effectiveness, or to identify more specific mitigation measures at this time. Therefore, this EIR conservatively identifies impacts caused by the proposed ballpark as significant and unavoidable impacts.

Significance after Mitigation: Significant and Unavoidable.

Bus Travel Time

Impact TRA-5: Traffic congestion caused by the traffic generated by development facilitated by the Proposed Amendments could substantially increase travel time for AC Transit buses. (Potentially Significant)

As shown in the analyses in the previous sections and summarized in Table 4.13-10 through Table 4.13-12, development facilitated by the Proposed Amendments would increase the amount of traffic and congestion along corridors, such as Broadway, 11th/12th Streets, and San Pablo Avenue, and potentially increase the amount of delay experienced by AC Transit buses. The increase in

additional delay on individual corridors cannot be quantified at this time because the specific details about component projects are not known at the time this program-level analysis is being prepared. In addition, the City has no reliable basis to establish a numerical threshold for “substantially increased travel times” due to several factors:

- First, bus service, in general, can change quite frequently over time in response to external factors, as is the case with AC Transit’s bus network. During the duration of the Proposed Amendments, existing routes may no longer exist or new routes may be added to service or altered in some way. In fact, AC Transit has generally reduced its bus service over the past few years in response to budget issues. Similar to parking, transit service is not part of the physical environment, and can change.
- Second, any numerical threshold to determine the significance of increased travel times needs to consider additional characteristics of the bus service, including its headway (the amount of time between scheduled trips) and total travel time. Given the changeable nature of bus service, establishing such thresholds is not reasonable, as service can be rerouted, eliminated, or created at any time. Consideration would also have to be given to different types of transit service (e.g., trunk service, Transbay service, local service, and community service), as they generally operate with different characteristics.
- Third, unlike the situation for intersections or roadway facilities, there are no well-established methodologies for characterizing the operations of transit service in relation to travel times. For intersections, clear distinctions are made between intersections that operate at acceptable conditions (e.g., LOS D or better) and those that operate at unacceptable conditions (e.g., LOS E or LOS F), and separate impact thresholds are provided. For bus service, however, there is no well-established LOS equivalent for characterizing transit service in relation to travel times.

The three factors above are basic factors that make estimating AC Transit travel times with reasonable certainty throughout the life of the project, or establishing numerical thresholds for AC Transit travel times, difficult and impractical.

However, there is the potential for development facilitated by the Proposed Amendments to generate traffic that may result in increased bus travel times along corridors served by AC Transit. It is not determined that such delays would be substantial or adverse. In fact, the additional population and density in the downtown resulting from the Proposed Amendments could have *beneficial* effects. For example, transit ridership would increase, thus, contributing to the City’s stated goals to reduce GHG emissions and roadway congestion from single occupancy vehicles. Moreover, while additional buses may be necessary on specific bus routes to meet the increased demand for service, the additional buses would also serve to maintain current headways and consequently reduce the potential effect of increased delays due to additional vehicle congestion on local roadways.

The following mitigation measure outlines standard approaches to be employed as the project-level analysis to address an adverse bus travel time effect if one is determined through site-specific study to be substantial and adverse.

Mitigation Measure TRA-5: As part of the review for specific developments, consider implementing the following measures along AC Transit corridors that may experience increased congestion due to traffic generated by the project:

- Upgrade traffic signal equipment to provide Transit Service Priority (TSP)
- Move bus stops from near-side of the intersection to far-side (i.e., from before the signal to after the signal)
- Provide bus queue jump lanes where feasible.

These measures would improve bus travel times and reduce the magnitude of the potential impacts along affected corridors.

Significance after Mitigation: Less than Significant.

Required Congestion Management Program (CMP) Evaluation

The Alameda County CMP requires the assessment of development-driven impacts to regional roadways. Because the project would generate more than 100 “net new” PM peak-hour trips, the CMP requires the use of the Countywide Travel Demand Model to assess the impacts on regional roadways near the project site. The CMP and MTS roadways in the project vicinity identified in the NOP comments by ACCMA (November 2, 2010 letter) include:¹⁰

- | | | |
|-------------------|-----------------------|------------------|
| • I-880 | • 8th Street | • Broadway |
| • I-580 | • 12th Street | • Webster Street |
| • I-980 | • 14th Street | • Brush Street |
| • State Route 260 | • Grand Avenue | • Market Street |
| • 1st Street | • MacArthur Boulevard | |
| • 5th Street | • Piedmont Avenue | |

The ACCMA Model used in this study is a regional travel demand model that uses socio-economic data and roadway and transit network assumptions to forecast traffic volumes and transit ridership using a four-step modeling process that includes trip generation, trip distribution, mode split, and trip assignment. This process accounts for changes in travel patterns due to future growth and balances trip productions and attractions. This version of the Countywide Model is based on Association of Bay Area Governments (ABAG) *Projections 2007* land uses for 2015 and 2035.

For the purposes of this CMP and MTS Analysis (and to present a more conservative analysis), the project is assumed to not be included in the Countywide Model. The traffic forecasts for the 2015 and 2035 without project scenario were extracted for the CMP and MTS highway segments from that model and used as the baseline “no project” forecasts. Vehicle trips generated by the project were added to the baseline “no project” forecasts to estimate the “plus project” forecasts.

¹⁰ The roadway segments included in this evaluation are not based on an assessment of the project trip distribution or application of screening criteria to determine if the project would contribute enough new trips to warrant analysis.

The CMP and MTS segments were assessed using a volume-to-capacity (v/c) ratio methodology. For freeway segments, a per-lane capacity of 2,000 vehicles per hour (vph) was used, consistent with the latest CMP documents. For surface streets, a per-lane capacity of 800 vph was used. Roadway segments with a v/c ratio greater than 1.00 signify LOS F.

The “plus project” results were compared to the baseline “no project” results for the 2015 and 2035 horizon years. The 2015 and 2035 peak hour volumes, v/c ratios and the corresponding levels of service for without and with project conditions are provided in Appendix E-4.

Due to differences in the land use assumptions and differences in analysis methodologies, the forecasted traffic volumes on the roadway links can be different from the roadway segment volumes presented earlier, particularly at the local level. The first area of difference is the land use data sets employed for the roadway segment forecasts and the MTS forecasts. The roadway segment forecasts, which are used to assess program-level traffic impacts on City of Oakland roadways, are based on land use data adjusted to reflect past, present, existing, approved, pending and reasonably foreseeable projects in the City of Oakland, which differs from the data in the ACCMA Model. The second area of difference is the use of the “difference” method. The roadway segment forecasts use the output of the ACCMA Model as an input to develop volumes in conjunction with existing traffic counts. The CMP and MTS roadway analysis is based on the outputs of the ACCMA Model directly on a roadway segment level.

The project would contribute to 2015 and 2035 increases in traffic congestion on MTS roadways. However, the project would not cause a roadway segment on the MTS to degrade from LOS E or better to LOS F. The project also would not increase the v/c ratio by more than three percent for roadway segments that would operate at LOS F without the project. This is a less-than-significant impact, and as a result no mitigation measures are required.

Change in Air Traffic Patterns

Impact TRA-6: Development facilitated by the Proposed Amendments would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. (Less than Significant)

The Oakland International Airport is located about seven miles south of the Project Area. Development facilitated by the Proposed Amendments would increase density and increase building heights at specific locations. However, building heights are not expected to interfere with current flight patterns of Oakland International Airport or other nearby airports. Therefore, development facilitated by the Proposed Amendments would not result in change in air traffic patterns.

Mitigation: None Required.

Traffic Safety Hazards

Impact TRA-7: Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments, potentially causing conflicts among motor vehicles, bicycles, or pedestrians. (Less than Significant)

This project would consist of several developments throughout the study area. The locations and/or specific design elements of these developments are not known at this time. Therefore, it is beyond the scope of this programmatic EIR to determine if the project would adversely affect traffic safety. However, considering that each individual development would be required to be consistent with appropriate regulations and design standards in effect at the time, such as SCA 20, *Improvements in the Public Right-of-Way (General)* and SCA 21, *Improvements in the Public Right-of-Way (Specific)*, which require that public improvement plans and building plans for individual developments incorporate design requirements such as curbs, gutters, handicap access, adequate Fire Department access, and other measures to improve vehicle, bicycle, and pedestrian safety. The project would cause a less-than-significant impact on safety for motor vehicles, bicycles, and pedestrians. In addition, development facilitated by the Proposed Amendments is not expected to modify the roadway network in the project study area. Any potential roadway modifications would be consistent with appropriate regulations and design standards in effect at the time.

Mitigation: None Required.

Safety at At-Grade Railroad Crossings

Impact TRA-8: Development facilitated by the Proposed Amendments may result in additional automobile, bicycle, and/or pedestrian traffic at the existing at-grade railroad crossings and potentially contribute to safety issues along the railroad crossings. (Significant)

Development facilitated by the Proposed Amendments may result in additional vehicle, bicycle, and/or pedestrian traffic at existing at-grade railroad crossings, thereby potentially contributing to safety issues along the railroad corridor. For example, automobile traffic generated by new developments may increase vehicle queues at intersections near the railroad crossings. The additional traffic may result in queues backing up onto at-grade railroad crossings, possibly resulting in higher potential for train-related collisions. A substantial increase in traffic generated by the project may increase hazards that occur between incompatible uses (i.e., motor vehicles and trains, or pedestrians and trains).

As previously summarized, the eight at-grade railroad crossings in the Project Area have experienced five collisions, including one fatality, in the last three years. Considering that this EIR is a programmatic review which does not analyze impacts from specific projects at particular location, no detailed analysis, such as vehicle queuing near at-grade railroad crossings, is feasible at this time.

The Victory Court component of the project, consisting of a 39,000 seat ballpark, and up to 180,000 square feet of retail, 540,000 square feet of office, and 700 multi-family units, would be located near the railroad crossing at Oak Street. In addition, some of the affordable housing units included in the project may also be located within a quarter-mile of the eight at-grade crossings in the project vicinity. Specific project design details, including driveway locations, number of generated trips, and the potential number of automobile, bicycle and/or pedestrian trips crossing particular railroad tracks, must be evaluated at the project level.

Mitigation Measure TRA-8 presents the process for project-level review of at-grade railroad crossings. The incorporation of improvements identified in this mitigation measure may reduce the project's impact to the at-grade railroad crossing to a less-than-significant level. If these safety improvements are found to be physically, financially or otherwise not feasible, impacts would remain significant and unavoidable. Therefore, although some future developments would be required to perform traffic studies and must implement the feasible recommendations resulting from such studies, no further CEQA review would be required on this topic as the impacts have already been identified as significant and unavoidable. Thus, specific developments under this project that result in significant and unavoidable impacts at at-grade railroad crossing, would not have to prepare an Environmental Impact Report and/or Mitigated Negative Declaration solely based upon such impacts.

Mitigation Measure TRA-8: This mitigation measure should be applied to developments under the Proposed Amendments that would generate substantial multi-modal trips crossing at-grade railroad crossings that could substantially increase hazards between incompatible uses (i.e., motor vehicles and trains, or pedestrians and trains):

- ***Transportation Impact Studies (TIS) for At-grade Railroad Crossings*** – The TIS, otherwise required to be prepared for proposed developments under this project, in accordance with standard City policies and practices, must evaluate potential impacts to at-grade railroad crossings resulting from project-related traffic. The TIS should examine whether the proposed project would generate substantial multimodal trips crossing at-grade railroad crossings that could substantially increase hazards between incompatible uses (i.e., motor vehicles and trains, pedestrians and trains), which may include a Diagnostic Review for each railroad crossing.

If required, the Diagnostic Review must be completed with all affected properties and Stakeholders, in coordination with the California Public Utilities Commission (CPUC). It will include: roadway and rail descriptions; collision history; traffic volumes for all modes; train volumes; vehicular speeds; train speeds; and existing rail and traffic controls. Based on the Diagnostic Review and the number of projected trips, the TIS will evaluate if the proposed project increases hazards at the crossing. For example, vehicle traffic generated by the proposed project may cause vehicle queuing at intersections resulting in traffic spilling back onto at-grade railroad crossings.

Where the TIS identifies substantially hazardous crossing conditions caused by the proposed project, mitigations relative to the project's contribution to the crossing as necessary shall be applied through project redesign and/or incorporation of improvements to reduce potential adverse impacts. Proposed improvements must be

coordinated with CPUC and affected railroads and all necessary permits/approvals obtained, including a GO 88-B Request (Authorization to Alter Highway Rail Crossings). These improvements may include:

- Installation of additional warning signage;
- Improvements to warning devices at existing rail crossings;
- Installation or improvement to automobiles and/or pedestrian control gates;
- Installation of concrete panels to provide a smooth crossing surface;
- Reduction in the flangeway gap to improve pedestrian and bicyclist safety;
- Installation of median separation to prevent vehicles from driving around railroad crossings;
- Improvements to traffic signaling at intersections adjacent to crossings (e.g., signal preemption);
- Prohibition of parking within 100 feet of the crossings to improve the visibility of warning devices and approaching trains;
- Where soundwalls, landscaping, buildings, etc. would be installed near crossings, maintain the visibility of warning devices and approaching trains;
- Elimination of driveways near crossings;
- Installation of vandal-resistant fencing or walls to limit the access of pedestrians onto the railroad right-of-way; and/or
- Installation of grade separations at crossings.

This mitigation measure would be applied by the City on a development project (case-by-case), as appropriate. The incorporation of improvements identified in this mitigation measure could reduce the project's impact to the at-grade railroad crossing to a less-than-significant level. However, to the extent that installation of safety mechanisms is not feasible (physically, financially or otherwise), impacts would remain significant and unavoidable. A more detailed project-specific analysis of this impact and effectiveness of the mitigation measure at specific at-grade railroad crossings is not feasible in this programmatic EIR at this time; therefore, it is conservatively concluded that this mitigation measure would not mitigate the identified significant impact to a less-than-significant level, and the impact would remain significant and unavoidable. Therefore, this EIR conservatively identifies the impact on railroad crossings as significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Emergency Vehicle Access

Impact TRA-9: Development facilitated by the Proposed Amendments would generate services from emergency vehicles. (Less than Significant)

Development facilitated by the Proposed Amendments is not expected to modify the roadway network in the project study area. It is also not expected to result in dead-end street longer than 600 feet, which is the standard set forth in City regulations. The City's Fire Code and Subdivision regulations contained detailed standards and mitigation requirements relating to dead-end streets and emergency vehicle access. The adequacy of emergency vehicle access will be evaluated for each individual development in the study area. Considering that each individual development is expected to be consistent with the City's Fire Code, Subdivision and other regulations in effect at the time, the project would cause a less-than-significant impact on emergency access.

Mitigation: None Required.

Consistency with Adopted Policies, Plans or Programs Supporting Alternative Transportation

Impact TRA-10: Development facilitated by the Proposed Amendments would generate demand for alternative transportation services. (Less than Significant)

The City of Oakland General Plan LUTE and "Transit First" Policy state a strong preference for encouraging the use of alternative transportation modes, such as transit, bicycling, and walking. Development facilitated by the Proposed Amendments would encourage use of alternative modes because it would provide a variety of new uses near existing and other planned uses. Proposed projects would encourage pedestrian activity by providing a variety of complementary uses within walking distance of other residential, commercial, employment, and cultural uses. In addition, the various project components are located in an area that is well-served by transit, including major AC Transit corridors, three BART stations, Amtrak and ferry service.

Consistent with the City of Oakland General Plan LUTE and "Transit First" Policy, the project components, as required by the City's SCA25, would implement a TDM program to encourage more residents, employees, and/or visitors to shift from driving alone to other modes of travel. Potential TDM measures may include, but are not limited to, transit ticket subsidies, awareness programs, direct transit sales, providing a guaranteed ride home program, and parking management strategies. Individual projects will determine the specific components of their TDM program to encourage increased use of alternatives transportation modes.

The project components are expected to be consistent with the City of Oakland *Pedestrian Master Plan* by including features and improvements as needed such as using traffic signals and their associated features (e.g., pedestrian signal heads) to improve pedestrian safety at intersections. Each project component is expected to identify changes to improve pedestrian circulation and

access such as sidewalks, curb ramps, and intersection crossings. Individual projects are also expected to be consistent with ADA requirements.

The project would be consistent with the City of Oakland *Bicycle Master Plan* (BMP) in that it does not preclude implementation of the BMP by modifying roadways that have been designated for future bicycle facilities. In addition, project components are expected to provide adequate bicycle parking.

In summary, the project generally would be consistent with policies, plans and programs described above, and would not cause a significant impact by conflicting with adopted policies, plans, or programs supporting alternative transportation.

Mitigation: None Required.

Temporary Construction Impacts

Impact TRA-11: Development facilitated by the Proposed Amendments would generate temporary increases in traffic volume and temporary effects on transportation conditions. (Less than Significant)

During the construction of various project components, temporary and intermittent transportation impacts may result from truck movements as well as construction worker vehicles to and from the project site, or temporary closure of sidewalks and/or bicycle lanes. The construction-related traffic may temporarily reduce capacities of Project Area roadways because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles. Truck traffic that occurs during the peak commute hours (7:00 to 9:00 AM and 4:00 to 6:00 PM) may result in temporary worse levels of service and higher delays at study intersections during the construction period. Also, if parking of construction workers' vehicles cannot be accommodated within the specific project site, it would temporarily increase parking occupancy levels in the area. Project construction could also affect the operations of AC Transit buses.

The City of Oakland SCA33, as discussed on page 4.13-34, requires that a Construction Traffic Management Plan be developed and implemented as part of a larger Construction Management Plan for each development project to address potentially significant impacts during the project's construction. This is a less-than-significant impact, and as a result no mitigation measures are required.

Mitigation: None Required.

Planning-Related Non-CEQA Issues

The following transportation-related topics are not considered under CEQA, but are evaluated in order to inform decision-makers and the public about these issues.

Parking-Related Impacts

This transportation analysis assesses the issue of parking as a non-CEQA impact. Parking impacts are assessed according to the following language, which was developed by the City of Oakland:

The Court of Appeal has held that parking is not part of the permanent physical environment, that parking conditions change over time as people change their travel patterns, and that unmet parking demand created by a project need not be considered a significant environmental impact under CEQA unless it would cause significant secondary effects.¹¹ Parking supply/demand varies by time of day, day of week, and seasonally. As parking demand increases faster than the supply, parking prices rise to reach equilibrium between supply and demand. Decreased availability and increased costs result in changes to people's mode and pattern of travel. However, the City of Oakland, in its review of development facilitated by the Proposed Amendments, wants to ensure that the project's provision of additional parking spaces along with measures to lessen parking demand (by encouraging the use of non-auto travel modes) would result in minimal adverse effects to project occupants and visitors, and that any secondary effects (such as on air quality due to drivers searching for parking spaces) would be minimized. As such, although not required by CEQA, parking conditions are evaluated in this document.

Parking deficits may be associated with secondary physical environmental impacts, such as air quality and noise effects, caused by congestion resulting from drivers circling as they look for a parking space. However, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, shuttles, taxis, bicycles or travel by foot), may induce drivers to shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service, in particular, would be in keeping with the City's "Transit First" policy.

Additionally, regarding potential secondary effects, cars circling and looking for a parking space in areas of limited parking supply is typically a temporary condition, often offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts that might result from a shortfall in parking in the vicinity of the Project Area are considered less than significant.

As previously stated, the specific uses, exact size and location, or the proposed parking supply of each individual development projects anticipated under this project are not known. In addition, development projects may also displace existing parking supply. Thus, this EIR cannot determine if the project's estimated parking demand (both project-generated and project-displaced) would be satisfied by the project's proposed parking supply or by the existing parking supply available in the vicinity.

¹¹ San Franciscans Upholding the Downtown Plan v. City and County of San Francisco (2002) 102 Cal.App.4th 656

It is expected that future review of each individual development project would determine the adequacy of the proposed parking supply to meet the expected parking demand. In addition, SCA 25 (Parking and Transportation Demand Management), discussed on page 4.13-32, would be applicable to proposed developments and would require implementation of programs and strategies to reduce the project's parking demand.

Increased Transit Ridership

One of the stated goals in City of Oakland General Plan LUTE is the promotion of transit ridership and encouragement of transit accessibility and improvement of transit service throughout Oakland. Thus, an increase in transit ridership is not identified as a significant impact.

Development facilitated by the Proposed Amendments is in an area served by a variety of local and regional transit services: AC Transit, BART, Ferry, and Amtrak. Thus, considering the density of uses and proximity of project components to existing transit service, it is expected that projects developed under the Proposed Amendments would increase demand for all transit services in the area. Some transit services, such as specific BART routes and AC Transit routes, operate at or above capacity during peak service periods. It is expected that development facilitated by the Proposed Amendments would add to the overcapacity conditions.

4.13.4 References

- Alameda County Congestion Management Agency, *Level of Service Monitoring on the Congestion Management Program Roadway Network*, September 2010.
- California Department of Transportation (Caltrans), *2009 Traffic Volumes on California State Highways*, 2010; at <http://traffic-counts.dot.ca.gov/2009all/2009TrafficVolumes.htm>, accessed November 2010.
- City of Oakland, *Envision Oakland, City of Oakland General Plan, Land Use and Transportation (LUTE) Element*, as amended through March 24, 1998.
- City of Oakland, *Bicycle Master Plan Update*, December 2007.
- City of Oakland, *2007-2014 Housing Element Draft EIR*, August 2010.
- City of Oakland, *Pedestrian Master Plan*, November 2002.
- Federal Railroad Administration (FRA), Office of Safety web site (<http://safetydata.fra.dot.gov/OfficeofSafety/Default.aspx>), accessed December 2010, and January 2011.
- Florida Department of Transportation, *Quality/Level of Service Handbook*, 2009
- Transportation Research Board (TRB), *2000 Highway Capacity Manual*, 2000.

4.14 Utilities and Service Systems

This section describes existing public utilities in the Project Area and evaluates the impact of the development facilitated by the Proposed Amendments on the provision of public utilities and possible adverse physical impacts to the environment that could result from development facilitated by the Proposed Amendments. Topics analyzed in this section include public water supply, sanitary sewer (wastewater), stormwater drainage facilities, solid waste, and energy services.

4.14.1 Environmental Setting

Water Service

Water Supply System

The East Bay Municipal Utilities District (EBMUD) is a publicly owned water utility supplying water and wastewater treatment for parts of western Alameda and Contra Costa Counties, including the Project Area. The 577-square-mile Mokelumne Watershed provides the single source of water used to serve the 1.3 million people plus industrial, commercial, and institutional water users in EBMUD's 331-square-mile service area; water is stored primarily in the Pardee and Camanche Reservoirs. The Pardee Reservoir has 198 thousand acre-feet (TAF) (64.5 billion gallons) of storage. The Camanche Reservoir has 417 TAF (135.8 billion gallons) of storage.

The East Bayshore Recycled Water Project, currently under construction, will use water treated in EBMUD's wastewater treatment plan (see description below) and supply an annual average of 2.2 million gallons per day (mgd) of recycled water to portions of Alameda, Albany, Berkeley, Emeryville and Oakland, including customers within the Project Area. Recycled water will be used for irrigation, industrial and commercial activities and possibly wetland restoration projects and will offset demands for potable water supply. The first customers began service in April 2008 and used 0.04 mgd of recycled water in 2009 (EBMUD, 2009b).

Water Demand

EBMUD produces an average of about 220 mgd of potable water in non-drought years. By 2040, EBMUD estimates that water demand will increase to approximately 312 mgd in its service area. With successful implementation of water recycling and conservation programs, this demand is estimated to be reduced to about 230 mgd (EBMUD, 2009a).

EBMUD adopted an updated long-term Water Supply Management Program (WSMP) in October 2009.¹ This document serves as a planning guide for the reliable provision of quality water to the EBMUD service area through 2040. The WSMP analysis found that a combination of existing

¹ EBMUD's current Urban Water Management Plan (UWMP) is 5 years old and is not used to describe the existing water supply or demand in this document. EBMUD is currently preparing its 2010 Urban Water Management Plan (UWMP), which is scheduled for submission to the State Department of Water Resources by July 2011. The UWMP will describe conservation targets contemplated to achieve a 20-percent reduction in urban per capita water use by 2020, pursuant to Senate Bill 7.

system reservoirs, conservation measures, and recycled water would meet water demand during wet and normal years. In addition, it formulated a Preferred Portfolio of water management that includes rationing of up to 15 percent, aggressive conservation resulting in 39 mgd by 2040, and recycling water resulting in 11 mgd that would meet demand during drought years.

The WSMP also identified supplemental supply components that would keep rationing at a lower level during dry years. EBMUD continues to study and pursue a range supplemental supply options. Some combination of these supplemental supply components, summarized below, would be required to meet the estimated 2040 water demand in a worst-case drought event (EBMUD, 2010a).

Water Supply Projects

Northern California Water Transfer

Under the Water Transfer, there is a change in the way water supplies are allocated, either temporarily or permanently, or the acquisition of additional water rights. Long-term transfers require a more extensive environmental review process. It is assumed that EBMUD would transfer up to 100 mgd of water through the Freeport Regional Water Project, which will also regularly supply the Sacramento County Water Agency (SCWA) with 85 mgd. At this time, water transfer partners have not been identified, so sources of water are not known.

Bayside Groundwater Project Phase 2

Phase I of the Bayside Groundwater Project involves the use of an existing well in South East Bay Plain Basin with an annual capacity of 1 mgd, as well as construction of associated conveyance and treatment facilities. Phase 2 would build upon this system by expanding extraction and storage capacity to up to 9 mgd through replacement of the existing Phase 1 well and construction of a second well at that site, construction of two new wells each at two new sites, a new treatment plant, as well as distribution and injection pipes. Under this project, facilities would be designed to inject treated water into the underlying aquifer during years when water is available and to recover water during the drought years.

Sacramento Groundwater Banking / Exchange

This system would develop an artificial groundwater recharge and recover operation in partnership with the SCWA or other Sacramento-area agencies. EBMUD would support development of facilities that would recharge the Sacramento groundwater basin and would receive a portion of the water extracted or stored as a dry-year supply. Maximum facilities would include up to 39 acres of recharge ponds; three extraction wells capable of pumping 2,000 gallons per minute all year; as well as a pre-treatment plant, pipelines, a pump station, and other associated infrastructure. It is assumed that the project would produce 4.2 mgd, but individual allocations and operational details have not yet been determined.

Mokelumne Inter-Regional Conjunctive Use Project / San Joaquin Groundwater Banking / Exchange

The Inter-Regional Conjunctive Use Project (IRCUP) would use the San Joaquin Groundwater Basin for storage. It would involve one or more of the involved parties obtaining a water right to enable surface water to be diverted from the Mokelumne River and banked for later use by one or more of the parties. Recharge would occur over a conceptual 137-acre of basins, and groundwater would be extracted via 15 wells for use in dry years. Water would travel to the EBMUD service area via the Mokelumne Aqueduct.

Regional Desalinization

In partnership with Contra Costa Water District (CCWD), the San Francisco Public Utilities Commission (SFPUC), and the Santa Clara Valley Water District (SCVWD), EBMUD is exploring a Bay Area Regional Desalinization Project, which would produce 71 mgd, of which 20 mgd would be allocated to EBMUD. Three desalinization plants would be constructed—one in San Francisco, one in Oakland, and one in East Contra Costa on the shore of the Suisun Bay. The plants would provide intermittent dry-year supplemental supply, depending on the specific agreement between partner agencies.

Enlarge Pardee / Lower Bear Reservoirs

Enlargement of the Pardee Reservoir, which currently tops out at 568 feet above mean sea level, would occur under this project. The reservoir would be expanded up to 600 feet above mean sea level, creating an additional 126,000 acre-feet of storage, or about 37.5 mgd of water supply in each dry year (for up to three consecutive dry years). Implementation would require project-specific environmental review to address cultural and historic resources, road access and bridges, and biological resources.

Enlargement of the Lower Bear Reservoir, which is currently owned by Pacific Gas and Electric (PG&E), would allow increased water supply users in five separate counties. Studies indicated that the reservoir would yield an additional 18,300 acre-feet of water. It is assumed that EBMUD would receive about 4,500 acre-feet during wet or normal years, as well as 2,500 acre-feet during dry years.

Sanitary Sewer Service

Sanitary Sewer Conveyance

The City of Oakland owns, operates, and maintains a local sanitary sewer collection system covering approximately 48 square miles, approximately 1,000 miles of pipe, and seven pump stations (PWA, 2010). The City's sewer collection system is divided into basins and subbasins. Each numbered subbasin encompasses a specific physical area, and its sewer flows are assigned to a single discharge point from the City's collection system into the EBMUD's interceptor lines. City sewer pipes range from 6 to 72 inches in diameter. Most of the system is gravity-fed. Some areas of Oakland, such as former military bases, cemeteries, large parks, and some hillside areas, are not part of the sewer service system. Sanitary sewer facilities currently serve the Project Area.

The City of Oakland has instituted an Inflow and Infiltration Correction Program to reduce wet weather overflows into the sanitary sewer system. This program is anticipated to increase the capacity of the collection system to allow an approximately 20 percent increase in wastewater flows for each subarea within the City.

Sanitary Sewer Treatment

EBMUD provides sanitary sewer treatment services to approximately 640,000 people within an 83-square-mile area of Alameda and Contra Costa counties, including the City of Oakland. The City of Oakland is within the EBMUD Special District No. 1 sanitary sewer treatment service area (EBMUD, 2007).

EBMUD's main wastewater treatment plant is located southwest of the Interstate 580/Interstate 80 (I-580/I-80) interchange in Oakland, south of the San Francisco/Oakland Bay Bridge. Wastewater is collected by 29 miles of interceptor lines that move wastewater from about 1,400 miles of sewers owned and operated by the jurisdictions served. The permitted plant capacity for the dry weather season is 120 mgd and for the wet weather season is 320 mgd (RWQCB, 2010). Average daily flow is 73 mgd (EBMUD, 2007).

Stormwater Drainage Facilities

In Oakland, stormwater runoff is collected from the southwesterly flows from the Oakland/Berkeley hills to the developed flatlands, where it then flows primarily through underground storm drains and culverts to the San Francisco Bay, via the Oakland Estuary (directly or by way of Lake Merritt) or through the City of Emeryville. As stated in Section 4.8, *Hydrology and Water Quality* of this document, the Project Area is relatively flat and drainage patterns vary with local topography. The majority of the Project Area drains west toward San Antonio Creek and eventually into the San Francisco Bay. The area north of San Pablo Avenue between 13th Street and 21st Street generally drains northwestward into the St. Ettie Pump Station Watershed. A small northeastern portion between 25th Street and 28th Street and south of Telegraph Avenue drains southeast towards Glen Echo Creek and eventually into Lake Merritt, Lake Merritt Channel, Oakland Estuary, and subsequently into San Francisco Bay.

The Alameda County Flood Control and Water Conservation District constructs, operates, and maintains major trunk lines and flood-control facilities in Oakland, and the Oakland Public Works Agency is responsible for construction and maintenance of the local storm drainage system within Oakland's public areas and roads.

The City prepared a comprehensive storm drainage master plan to identify existing deficiencies in the system and develop prioritized recommendations for rehabilitating the system in order to reduce localized flooding (PWA, 2006). The existing storm drain system is aged and would not be able to handle increased runoff flows. Therefore, the City requires development projects to evaluate the onsite and offsite condition and capacity of the existing stormwater collection system and implement necessary improvements that are identified to accommodate the project.

Solid Waste

Waste Management and Disposal

Non-hazardous waste in the City of Oakland is collected by Waste Management of Alameda County (WMAC), which provides curbside pickup for residential, commercial and industrial non-hazardous waste, and transports it to WMAC's Davis Street Transfer Station in the City of San Leandro. Transfer trucks haul waste to the Altamont Landfill and Resource Facility, located approximately 35 miles east of Oakland near Livermore. In 2009, the City of Oakland disposed of approximately 306,839 tons of solid waste, 264,636 tons of which went to the Altamont Landfill (CalRecycle, 2010). Most of the remaining solid waste was sent to one of four landfills: Forward Landfill in San Joaquin County; the Keller Canyon Landfill in Contra Costa County, Potrero Hills Landfill in Solano County, and the Vasco Road Landfill in Alameda County. The Altamont Landfill has an estimated capacity of 62,000,000, of which about 26 percent was used, in the year 2000. The solid waste facility permit is currently undergoing its regular 5-year review. It has a permitted maximum daily disposal of 11,500 tons per day.

Alameda County's Integrated Waste Management Plan, prepared by the Alameda County Waste Management Authority (ACWMA) pursuant Assembly Bill 939 (see below), projects disposal tonnage at the Altamont and Vasco Road Landfills through 2050 (ACWMA, 2003). According to these projections, Vasco Road Landfill capacity will terminate in the year 2037, and the Altamont Landfill capacity will be reduced to 20,588,255 tons in the year 2052.

Waste Generation and Diversion

AB 939, enacted in 1989, requires Source Reduction and Recycling Element of each city and county to include an implementation schedule to divert a percentage of its solid waste from landfill disposal through source reduction, recycling, and composting activities. AB 939 specifies a required diversion rate of at least 50 percent of wastes by the year 2000, and at least 75 percent by 2010. The California Department of Resources Recycling and Recovery (CalRecycle) indicates that the Oakland's diversion rate was 59 percent in 2006. Beginning with the 2007 jurisdiction annual reports, diversion rates were no longer measured. With the passage of SB 1016 in 2006, the Per Capita Disposal Measurement System, only per capita disposal rates are measured to determine if jurisdiction's efforts are meeting the intent of AB 939. Oakland's per resident disposal target rate is 5.8 pounds per person per day (PPD), and it's per employee disposal target rate is 15.3 PPD. In 2008, which is the most recent date for which data is available, the measured disposal rate was 4.0 PPD for residents and 10.0 PPD for employees, thereby meeting the City's target rates (CalRecycle, 2010).

Energy Services

Electricity and gas service in the City of Oakland is provided primarily by PG&E, which owns the gas and electrical utility supply lines. Some users purchase energy services directly from alternate power providers. Throughout most of Oakland, electrical power is delivered via overhead distribution and transmission lines, and natural gas is distributed through underground

pipings. PG&E expands its services on an as-needed basis and requires the user to fund the extension of service.

Electricity Service Demand

Electrical service in the Project Area is provided by PG&E. PG&E provides natural gas and electricity to approximately 13 million people throughout a 70,000 square mile service area in Northern and Central California (PG&E, 2010). Other companies may also provide electricity, but PG&E delivers the service. Electrical energy is supplied to the City of Oakland via electrical substations, to which electricity is transported through high-voltage electric cables. Large transformers at the local substations convert the electricity which is provided to the existing PG&E customers, representing predominantly industrial uses, throughout the Project Area and surrounding vicinity.

The California Energy Commission (CEC) indicates that Alameda County consumed 11,534 gigawatt-hours (GWh) of electricity in 2009, up from 11,097 GWh in 2006 (CEC, 2010). In the PG&E Planning area, total consumption in 2009 was approximately 108,503 GWh, up from 104,719 GWh in 2006; in 2018, total consumption is estimated to be 119,644 GWh with a peak of approximately 24,600 MW (CEC, 2007).²

The California Independent System Operator (California ISO) is charged with managing the flow of electricity along the State's open market wholesale power grid. The California ISO Energy Demand Forecast (2008–2018) estimates that residential, commercial, and industrial sectors represented 85 percent of statewide electricity demand in 2008. Statewide consumption is expected to increase 11.6 percent by 2018, due primarily to growth in the residential and commercial sectors.

4.14.2 Regulatory Setting

Water Quality, Supply, and Distribution

Safe Drinking Water Act

The USEPA administers the Safe Drinking Water Act (SDWA), the primary federal law that regulates the quality of drinking water and establishes standards to protect public health and safety. The Department of Health Services (DHS) implements the SDWA and oversees public water system quality statewide. DHS establishes legal drinking water standards for contaminants that could threaten public health.

² The CEC defines the PG&E Planning Area to include PG&E bundled retail customers, customers served by energy service providers using the PG&E distribution system to deliver electricity to end users, and customers of publicly owned utilities and irrigation districts in PG&E transmission system (with the exception of the Sacramento Municipal Utility District).

Senate Bill (SB) 610 / Senate Bill (SB) 221

Senate Bill (SB) 610, codified as Sections 10910-10915 of the California Public Resources Code, requires local water providers to conduct a water supply assessment for projects proposing over 500 housing units³, 250,000 square feet of commercial office space (or more than 1,000 employees), a shopping center or business establishment with over 500,000 square feet (or more than 1,000 employees), or equivalent usage. Local water suppliers must also prepare or have already prepared an Urban Water Management Plan to guide planning and development in the water supplier's service area, and specifically pursue efficient use of water resources.

Water Conservation in Landscaping Act (Assembly Bill 1881, 2006)

The Water Conservation in Landscaping Act of 2006 (Assembly Bill 1881, Laird) requires cities, counties, and charter cities and charter counties to adopt landscape water conservation ordinances by January 1, 2010. Pursuant to this law, the Department of Water Resources (DWR) has prepared a Model Water Efficient Landscape Ordinance (Model Ordinance) for use by local agencies. Most new and rehabilitated landscapes are subject to a water efficient landscape ordinance. Public landscapes and private development projects are subject to the Model Ordinance. However, the Ordinance does not apply to registered local, state, or federal historic sites, ecological restoration projects, mined-land reclamation projects, or plant collections.

Stormwater Drainage

Regulations related to the quality and quantity of stormwater runoff (i.e., Federal Clean Water Act / NPDES) are discussed in Section 4.8, *Hydrology and Water Quality*.

Solid Waste

Assembly Bill (AB) 939

The California Integrated Waste Management Act of 1989, or Assembly Bill (AB) 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans and also mandated that local jurisdictions divert at least 50 percent of all solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. As required by AB 939, the City of Oakland has prepared a Source Reduction and Recycling Element (SRRE) which requires proposed development projects to undergo, as part of the required environmental review, an assessment of project impacts on the City's ability to maintain the mandated 50 percent waste diversion rates. With the passage of SB 1016 in 2006, the Per Capita Disposal Measurement System, only per capita disposal rates are measured to determine if jurisdiction's efforts are meeting the intent of AB 939.

³ Senate Bill (SB) 221 similarly amended the Subdivision Map Act to ensure confirmation that public water supply is sufficient to serve proposed development projects of 500 dwelling units or more.

Alameda County Waste Reduction and Recycling Initiative (Measure D)

In addition to AB 939, the 1990 Voter Initiative Measure D (Alameda County Waste Reduction and Recycling Initiative) mandates all cities in Alameda County to divert 75 percent of their solid waste from landfills by the year 2010.

Construction and Demolition Debris Waste Reduction and Recycling (Ordinance No. 12253 C.M.S.)

The City of Oakland's construction and demolition (C&D) debris waste reduction and recycling requirements are intended to further the goals of AB 939 and Alameda County's Measure D. As part of the application for a building permit, a project applicant is required to prepare and submit a Construction and Demolition Debris Waste Reduction and Recycling Plan (WRRP) to divert at least 50 percent of all construction and demolition debris generated by project development from landfill disposal.

Energy

Buildings constructed after June 30, 1977 must comply with standards identified in Title 24 of the California Code of Regulations. Title 24, established by the California Energy Commission (CEC) in 1978, requires the inclusion of state-of-the-art energy conservation features in building design and construction including the incorporation of specific energy conserving design features, use of non-depletable energy resources, or a demonstration that buildings would comply with a designated energy budget.

Local Plans and Policies

City of Oakland General Plan

The Oakland General Plan includes the following policy related to the provision of utilities and infrastructure:

- *Policy I/C 1.9:* Adequate public infrastructure should be ensured within existing and proposed industrial and commercial areas to retain viable uses, improve the marketability of existing, vacant or underutilized sites, and encourage future use and development of these areas with activities consistent with the goals of the *General Plan*.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

The City of Oakland's SCA relevant to reducing impacts on utilities and service systems are listed below. If the Proposed Amendments are approved by the City, then all applicable SCA would be adopted as conditions of approval for projects facilitated by the Proposed Amendments.

- **SCA 36: Waste Reduction and Recycling**

The project applicant will submit a Construction and Demolition WRRP and an Operational Diversion Plan (ODP) for review and approval by the Public Works Agency.

Chapter 15.34 of the Oakland Municipal Code outlines requirements for reducing waste and optimizing construction and demolition recycling. Affected projects include all new construction, renovations/alterations/modifications with construction values of \$50,000 or more (except R-3), and all demolition (including soft demo). The WRRP must specify the methods by which the development will divert construction and demolition debris waste generated by the proposed project from landfill disposal in accordance with current City requirements. Current standards, FAQs, and forms are available at www.oaklandpw.com/Page39.aspx or in the Green Building Resource Center. After approval of the plan, the project applicant shall implement the plan.

The ODP will identify how the project complies with the Recycling Space Allocation Ordinance, (Chapter 17.118 of the Oakland Municipal Code), including capacity calculations, and specify the methods by which the development will meet the current diversion of solid waste generated by operation of the proposed project from landfill disposal in accordance with current City requirements. The proposed program shall be implemented and maintained for the duration of the proposed activity or facility. Changes to the plan may be re-submitted to the Environmental Services Division of the Public Works Agency for review and approval. Any incentive programs shall remain fully operational as long as residents and businesses exist at the project site.

- **SCA 91: Stormwater and Sewer**

Confirmation of the capacity of the City's surrounding stormwater and sanitary sewer system and state of repair shall be completed by a qualified civil engineer with funding from the project applicant. The project applicant shall be responsible for the necessary stormwater and sanitary sewer infrastructure improvements to accommodate the proposed project. In addition, the applicant shall be required to pay additional fees to improve sanitary sewer infrastructure if required by the Sewer and Stormwater Division. Improvements to the existing sanitary sewer collection system shall specifically include, but are not limited to, mechanisms to control or minimize increases in infiltration/inflow to offset sanitary sewer increases associated with the proposed project. To the maximum extent practicable, the applicant will be required to implement Best Management Practices to reduce the peak stormwater runoff from the project site. Additionally, the project applicant shall be responsible for payment of the required installation or hook-up fees to the affected service providers.

SCAs related to Hydrology and Water Quality, including those related to stormwater, are described in Section 4.8, *Hydrology and Water Quality* of this document.

4.14.3 Impacts and Mitigation Measures

Significance Criteria

Development facilitated by the Proposed Amendments would have a significant impact on the environment if it would:

1. Exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board;
2. Require or result in construction of new stormwater drainage facilities or expansion of existing facilities, construction of which could cause significant environmental effects;

3. Exceed water supplies available to serve the project from existing entitlements and resources, and require or result in construction of water facilities or expansion of existing facilities, construction of which could cause significant environmental effects;
4. Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new wastewater treatment facilities or expansion of existing facilities, construction of which could cause significant environmental effects;
5. Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs and require or result in construction of landfill facilities or expansion of existing facilities, construction of which could cause significant environmental effects;
6. Violate applicable federal, state, and local statutes and regulations related to solid waste;
7. Violate applicable federal, state and local statutes and regulations relating to energy standards; or
8. Result in a determination by the energy provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects.

Impacts

Water Supply

Impact UTIL-1: The water demand generated by development facilitated by the Proposed Amendments would not exceed water supplies available from existing entitlements and resources. (Less than Significant)

As stated above, EBMUD produces an average of about 220 mgd in non-drought years. By 2040, EBMUD estimates that water demand will increase to approximately 312 mgd in its service area, although, with successful implementation of water recycling and conservation programs, this demand could be reduced to about 230 mgd (EBMUD, 2009a). EBMUD adopted an updated long-term Water Supply Management Program (WSMP) in October 2009, which included the growth projections of the Oakland General Plan and those that would be facilitated by the Proposed Amendments.⁴ The WSMP analysis found that a combination of existing system reservoirs, conservation measures, and recycled water would meet water demand during wet and normal years. In addition, it formulated a Preferred Portfolio of water management that includes

⁴ EBMUD's current Urban Water Management Plan (UWMP) is 5 years old and is not used to describe the existing water supply or demand in this document. EBMUD is currently preparing its 2010 Urban Water Management Plan (UWMP), which is scheduled for submission to the State Department of Water Resources by July 2011. The UWMP will describe conservation targets contemplated to achieve a 20-percent reduction in urban per capita water use by 2020, pursuant to Senate Bill 7.

rationing of up to 15 percent, aggressive conservation resulting in 39 mgd by 2040, and recycling water resulting in 11 mgd that would meet demand during drought years.

Also, individual development projects facilitated by the Proposed Amendments would be subject to project-level environmental review as necessary and appropriate. Pursuant to Sections 10910 through 10915 (SB 610) of the California Water Code, projects that exceed the threshold for a Water Supply Assessment (WSA) would prepare such an assessment or request EBMUD to prepare such an assessment.

As such, development facilitated by the Proposed Amendments would not require new water supply entitlements, resources, facilities, or expansion of existing facilities beyond that which is already planned for in EBMUD's WSMP and the impact would be less than significant.

Mitigation: None Required.

Sanitary Sewer

Impact UTIL-2: Development facilitated by the Proposed Amendments would not exceed the wastewater treatment requirements of the San Francisco Regional Water Quality Control Board or result in a determination that new or expanded wastewater treatment facilities would be required. (Less than Significant)

Development facilitated by the Proposed Amendments may require localized investment in new or upgraded local City-owned sanitary sewer infrastructure, or in the larger EBMUD-owned sanitary sewer transmission infrastructure. Development facilitated by the Proposed Amendments would increase the amount of wastewater generated within the Project Area. However, these projects would not require or result in the construction of new wastewater treatment facilities or expansion of existing treatment facilities because EBMUD has adequate capacity to treat this projected demand in addition to its existing commitments, according to wastewater treatment requirements of the applicable Regional Water Quality Control Board.

In terms of wastewater flow conveyance to EBMUD treatment facilities, development facilitated by the Proposed Amendments may require localized investment in new or upgraded local City-owned sanitary sewer infrastructure, or in the larger EBMUD-owned sanitary sewer transmission infrastructure. Individual projects would be required to undergo project-specific environmental review as needed and appropriate, and their project-level impacts, including those associated with the potential construction of new or upgrading wastewater conveyance infrastructure, would be evaluated at that time.

Development facilitated by the Proposed Amendments would have a less-than-significant impact on sanitary sewer service and treatment.

Mitigation: None Required.

Stormwater Drainage Facilities

Impact UTIL-3: Development facilitated by the Proposed Amendments would not require or result in construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. (Less than Significant)

Given the location of the Project Area within a built-out urban environment, much of the area comprises impervious surfaces. The Proposed Amendments would facilitate construction of projects that could alter the composition of the overall impervious surfaces. However, as stated in Section 4.8, *Hydrology and Water Quality*, compliance with the in-place Alameda Countywide Clean Water Program NPDES Permit would require no net increase in stormwater runoff after construction at any individual project site. Therefore, development facilitated by the Proposed Amendments, as a whole, would not directly or indirectly lead to an increase in stormwater runoff.

Any individual development project proposed under the Proposed Amendments would be required to complete environmental review pursuant to the California Environmental Quality Act (CEQA) as necessary and appropriate. Implementation of SCA91, *Stormwater and Sewer*, would require that the applicants of individual projects construct the necessary stormwater infrastructure improvements to accommodate their projects, the environmental impacts of which are discussed in this document. Projects would also be required to implement SCA 80, *Post-construction Stormwater Pollution Prevention Plan*, (as listed in Section 4.8, *Hydrology and Water Quality*), which requires compliance with Provision C.3 of the Alameda Countywide Clean Water Program. This provision regulates post-construction stormwater runoff. Projects would also be required to prepare Stormwater Pollution Prevention Plans (SWPPP) as described under SCA 75, *Stormwater Pollution Prevention Plan*, (as listed in Section 4.8, *Hydrology and Water Quality*).

Because development facilitated by the Proposed Project would not result in an increase in stormwater runoff, and individual projects would be required to meet the SCA listed above, the development facilitated by the Proposed Amendments would have a less-than-significant impact on storm drainage facilities.

Mitigation: None Required.

Solid Waste Services

Impact UTIL-4: Development facilitated by the Proposed Amendments would not generate solid waste that would exceed the permitted capacity of the landfills serving the area. (Less than Significant)

The Proposed Amendments could facilitate projects that would generate construction/ demolition debris. In addition, the residential and employee population increase facilitated by the Proposed Amendments would increase demand for solid waste services.

However, as stated above, the Vasco Road and Altamont Landfills are projected to have capacity through the Proposed Amendments' effective lifetime to 2033. The Redevelopment Plan Amendments would not impede the ability of the City to meet the waste diversion requirements or cause the City to violate other applicable federal, state, and local statutes and regulations related to solid waste. In addition, projects facilitated by the Proposed Amendments would be subject to SCA 36, *Waste Reduction and Recycling*, which requires the preparation of an Operational Diversion Plan to identify how projects would comply with the City's Recycling Space Allocation Ordinance (Chapter 17.118 OMC).

Development facilitated by the Proposed Amendments would have a less-than-significant impact on solid waste services and landfill capacity.

Mitigation: None Required.

Energy

Impact UTIL-5: Development facilitated by the Proposed Amendments would not violate applicable federal, state and local statutes and regulations relating to energy standards; nor result in a determination by the energy provider which serves or may serve the area that it does not have adequate capacity to serve projected demand in addition to the providers' existing commitments and require or result in construction of new energy facilities or expansion of existing facilities. (Less than Significant)

The Proposed Amendments would facilitate projects that would result in an incremental increase in the demand for gas and electrical power. However, the level of public energy required of this new development would not be expected to violate applicable federal, state and local statutes and regulations relating to energy standards or exceed PG&E's service capacity or require new or expanded facilities.

Projects facilitated by the Proposed Amendments would comply with all standards of Title 24 of the California Code of Regulations, which requires construction projects to incorporate energy-conserving design measures into projects. All individual projects facilitated by the Proposed Amendments would undergo project-specific environmental review, as needed and appropriate, and any projects requiring extension, relocation, or increases in PG&E services would be required to undergo review by the utility.

The impacts to energy services would be less than significant.

Mitigation: None Required.

Cumulative Impacts

Impact UTIL-6: Development facilitated by the Proposed Amendments in combination with other past, present, existing, approved, pending, and reasonably foreseeable future projects within and around the Project Area, would result in an increased demand for utilities services. (Less than Significant)

The cumulative geographic context for Utilities and Service Systems for the activities facilitated by the Proposed Amendments consists of the Project Area in addition to all areas of the city since utilities services are provided citywide as well as regionally. Cumulative development considers those projects in the Major Projects List in Appendix B to this Draft EIR and discussed in Section 4.07.2, *Cumulative Context*, in the front of Chapter 4 of this Draft EIR.

EBMUD's protections for water and wastewater demand incorporate growth pursuant to service-area-wide growth projections. As stated above, EBMUD has determined that it would meet area-wide water demand in wet and normal years, as well as meet demand during multiple dry years through a combination of conservation, recycled water, and new water supply projects. EBMUD's and the City of Oakland's planning for wastewater capacity similarly include cumulative development.

Development facilitated by the Proposed Amendments would not result in a significant impact related to stormwater, solid waste and energy services. Thus, the development facilitated by the Proposed Amendments would not combine with, or add to, any potential adverse impacts on the provision of stormwater, solid waste or energy services that may be associated with other cumulative development. In addition, past projects have, and present and reasonably foreseeable future projects would be subject to SCA36, *Waste Reduction and Recycling*, 91, *Stormwater and Sewer*, 75, *Stormwater Pollution Prevention Plan*, and 80, *Post-construction Stormwater Management Plan* (as listed in section 4.8, *Hydrology and Water Quality*). Based on the information in this section and for the reasons summarized above, the development facilitated by the Proposed Amendments would not contribute to any significant adverse cumulative impacts on utilities or service systems when considered together with past, present, existing, approved, pending and reasonably foreseeable development.

Mitigation: None Required.

4.14.4 References

Alameda County Waste Management Authority (ACWMA), Alameda County Integrated Waste Management Plan, Countywide Element, February 2003.

California Department of Resources Recycling and Recovery (CalRecycle), Disposal Reporting System, <http://www.calrecycle.ca.gov/LGCentral/Reports/DRS/default.aspx>, accessed November 09, 2010.

California Energy Commission (CEC), Energy Consumption Data Management System,
<http://www.ecdms.energy.ca.gov/elecbycounty.aspx>, accessed November 10, 2010.

East Bay Municipal Utility Department (EBMUD), *Sewer System Management Plan*, August 31, 2007.

EBMUD, *Water Supply Management Program 2040 Plan*, October 2009a.

EBMUD, *East Bayshore Recycled Water Project Fact Sheet*, July 2009b.

Pacific Gas and Electric Company (PG&E), Website:
<http://www.pge.com/about/company/profile/>, Accessed December 2, 2010.

Public Works Agency (PWA), *City of Oakland's Storm Drain Master Plan*, prepared by CH2MHill, 2006.

PWA, Website, <http://www.oaklandpw.com/Page4.aspx>, accessed December 2, 2010.

San Francisco Bay Regional Water Quality Control Board (SFRWQCB), Final Order R2-2010-060, NPDES CA 0037702 for EBMUD Special District No. 1, Main Wastewater Treatment Plant, Alameda County, 2010.

CHAPTER 5

Alternatives

5.1 Criteria for Selecting Alternatives

CEQA requires that the EIR compare the effects of a “reasonable range of alternatives” to the effects of the project. The alternatives selected for comparison would attain most of the basic objectives of the project and avoid or substantially lessen one or more significant effects of the project (CEQA Guidelines Section 15126.6). The “range of alternatives” is governed by the “rule of reason” which requires the EIR to set forth only those alternatives necessary to permit an informed and reasoned choice by the decision-making body and informed public participation (CEQA Guidelines Section 15126.6[f]). CEQA generally defines “feasible” to mean an alternative that is capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, technological, and legal factors.

Therefore, each of the alternatives to the Project (the Redevelopment Plan with the Proposed Amendments) addressed in this EIR were selected based on the following factors:

1. The extent to which the alternative would accomplish most of the basic objectives of the Project (identified in Chapter 3);
2. The extent to which the alternative would avoid or lessen any of the identified significant environmental effects of the Project (discussed throughout Chapter 4);
3. The feasibility of the alternative, taking into account site suitability, availability of infrastructure, property control (ownership), and consistency with applicable plans and regulatory limitations;
4. The extent to which the alternative contributes to a “reasonable range” of alternatives necessary to permit a reasoned choice; and
5. The requirement of the CEQA Guidelines to consider a no-project alternative and to identify an environmentally superior alternative in addition to the no-project alternative (CEQA Guidelines, Section 15126.6(e)). The purpose of evaluating the no-project alternative is to allow decision makers to compare the impacts of approving the Project with the impacts of not approving the Project.

5.2 Alternatives Selected for Consideration

Consistent with the selection criteria identified above, the following three alternatives are discussed and analyzed compared to the Project throughout Section 5.4 in this chapter:

1. **No Project Alternative:** Under this alternative, the Proposed Amendments to the Redevelopment Plan (the Project) would not be adopted, therefore the development and programs described for the Project would not occur. However, the No Project Alternative does include development that could occur even without the Project. This includes certain already approved but not built residential developments in the Broadway/Valdez area (Broadway/West Grand and 2300 Broadway), a smaller entertainment/retail development at 1800 San Pablo compared to what would occur at that location with the Project, and other potential development on City Center parcels (T-5/6 and T-12) and at 1100 Broadway.
2. **Reduced Growth Alternative:** Under this alternative, the development and programs described for the Project would occur, except that the Broadway/Valdez Triangle development and the Victory Court-associated development would be developed at a reduced intensity (approximately 50 percent less floor area and fewer residential units).
3. **Victory Court Use Alternative:** Under this alternative, the Victory Court area would be developed with research and development (R&D), office, and retail uses instead of the 39,000-seat ballpark and associated development that would occur with the Project. All other aspects of the Project would occur with this Alternative.

The set of selected alternatives above are considered to reflect a “reasonable range” of feasible alternatives in that they include reduced scenarios that lessen and/or avoid significant and unavoidable, as well as less-than-significant, effects of the Project; a more aggressive growth scenario that could feasibly occur if economic conditions improve during the life of the Redevelopment Plan with the Proposed Amendments; and an alternative land use scenario of the Victory Court area. The Project is specific to the geography of the Central District in Downtown Oakland, therefore this analysis does not consider an off-site alternative.

Tables comparing the development program of each alternative to the Project are presented with the detailed description of each alternative and the alternative analyses, in Section 5.4. Detailed tables showing the development program of each alternate by land use and project site (i.e., Broadway/Valdez, Victory Court, 1800 San Pablo) in addition to other potential development that may occur without the Proposed Amendments (as necessary to allow comparison to the No Project Alternative in Table 5-1), as included in Appendix F to this Draft EIR.

5.3 Significant Impacts

To determine alternatives that would avoid or lessen any of the identified significant environmental effects of the Redevelopment Plan with the Proposed Amendments, the significant impacts must be considered. Impacts that are not mitigated to less than significant are considered “significant and unavoidable” (“SU”). The SU impacts identified for the Redevelopment Plan with the Proposed Amendments are listed below.

SU Air Quality Impacts

- **Impact AIR-3:** Development facilitated by the Proposed Amendments could include residential developments that expose occupants to substantial health risk from diesel particulate matter (DPM) from mobile and stationary sources. Although compliance with the

City's Standard Conditions of Approval would provide that a site specific health risk assessment (HRA) be prepared, and that would reduce exposures to DPM sources to less-than-significant levels, there is no assurance that exposure to gaseous toxic air contaminants (TACs) could be reduced to a less than significant level at every site.

- **Impact AIR-4:** Development facilitated by the Proposed Amendments could include residential developments that expose occupants to sources of substantial and frequent odors affecting a substantial number of people and would be guided by City policies to reduce potential odor impacts.

SU Cultural Impacts

- **Impact CUL-1:** Development facilitated by the Proposed Amendments could result in the physical demolition, destruction, relocation, or alteration of historical resources that are listed in or may be eligible for listing in the federal, state, or local registers of historical resources.
- **Impact CUL-5:** Development facilitated by the Proposed Amendments, combined with cumulative development in the defined geographic area, including past, present, existing, approved, pending, and reasonably foreseeable future development, would contribute considerably to a significant adverse cumulative impact to cultural resources.

SU Noise Impacts

- **Impact NOI-2:** Construction pile driving for the Victory Court ballpark that could be facilitated by the Proposed Amendments could increase ambient noise levels for an extended duration and adversely affect the surrounding noise environment.
- **Impact NOI-4:** Operational noise generated by the Victory Court ballpark that could be facilitated by the Proposed Amendments would generate special event noise levels in the Project Area to levels in excess of standards established in the Oakland Noise Ordinance and Planning Code.
- **Impact NOI-7:** Noise generated by the Victory Court ballpark that could be facilitated by the Proposed Amendments, in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could result in a 5-dBA permanent increase in ambient noise levels in the project vicinity above levels existing without development facilitated by the Proposed Amendments; and could substantially increase construction noise and operational noise in the Project Area.

SU Transportation and Circulation Impacts

- **Impact TRA-1:** Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Existing Plus Project conditions.
- **Impact TRA-2:** Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Cumulative Year 2015 Baseline Plus Project conditions.
- **Impact TRA-3:** Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Cumulative Year 2035 Baseline Plus Project conditions.

- **Impact TRA-4:** Baseball games and other special events at the Victory Court ballpark would adversely affect the surrounding transportation network.
- **Impact TRA-8:** Development facilitated by the Proposed Amendments may result in additional automobile, bicycle, and/or pedestrian traffic at the existing at-grade railroad crossings and potentially contribute to safety issues along the railroad crossings.

Under CEQA, the important consideration is whether the alternatives reduce significant impacts to less than significant. Each of the alternatives is discussed below. **Table 5-4** at the end of this chapter compares all the impacts of the Redevelopment Plan with the Proposed Amendments to each of the alternatives and indicates whether the impacts would have the same, fewer, or greater effect on the environment.

5.4 Alternatives Analysis

This section describes each alternative followed by a discussion of the impacts of the alternative compared to those identified with the Project. Impact comparisons to the Project's SU impacts are highlighted in ***bold italic*** text for convenience.

The impacts associated with the Project and each alternative are for buildout conditions. Impacts are stated as levels of significance *after* implementation of mitigation measures identified in Chapter 4, and all applicable City Standard Conditions of Approval (SCA) are assumed to be part of each alternative, just as they are also assumed to be part of the Project.

As permitted by CEQA, the effects of the alternatives are discussed in less detail than the impact discussions for the Project in Chapter 4 (CEQA Guidelines Section 15126.6[d]). However, the alternatives analysis is conducted at a sufficient level of detail to provide the public, other public agencies, and City decision-makers adequate information to evaluate the alternatives and for the City to approve any of the alternatives without further environmental review.

5.4.1 No Project Alternative 1

Description

Under the No Project Alternative, the Proposed Amendments would not be adopted. Without new development and revitalization that would be facilitated by the Proposed Amendments in the Project Area, no new tax increment funding would be generated. Property taxes generated in the Project Area would be distributed under the standard allocation.

Regarding programs, without the direct or indirect assistance of the Redevelopment Plan, programs for affordable housing, blight removal, and streetscape improvements, would be discontinued; however operational and maintenance functions including the City parking garage operations, Oakland Ice Center operations, and Henry J. Robinson Multi-service Center upgrades and operations would continue. Also, the affordable housing production requirements under the State Redevelopment law would not apply.

Under the No Project Alternative, major new retail/entertainment development would be substantially less than with the Project (approximately 12 percent of that assumed with the Project), and development of a new downtown ballpark and associated mixed-use development at the Victory Court site would not occur. The 110,000- square-foot entertainment/retail development at 1800 San Pablo that would be facilitated by the Proposed Amendments would still occur, but would be only 70,000 square feet in area (approximately 64 percent of that assumed with the Project). In addition, the No Project Alternative likely would mean substantially smaller to no increases in the affordable housing supply.

Further, even though there would be no new development facilitated by the Redevelopment Plan with the Proposed Amendments under the No Project Alternative, other new development will occur in the Project Area even if the Redevelopment Plan with the Proposed Amendments is not adopted, as reflected in the growth potential shown in **Table 5-1**. Future development with the No Project Alternative would continue consistent with the policies of the City of Oakland General Plan and specifically the Land Use and Transportation Element (LUTE), the Housing Element, the Historic Preservation Element, and the Estuary Policy Plan. Future development would also be subject to the City's Planning Code, Zoning Ordinance and Standard Conditions of Approval. Table 5-1 compares the No Project development directly to that assumed with the Project, in addition to other potential cumulative development that may occur without the Proposed Amendments in order to allow comparisons to the No Project Alternative.

Comparison of Alternative 1 (No Project) Impacts to the Project's Impacts¹

Aesthetics, Shadow and Wind

Similar to the development that would occur with the Project, individual developments that would occur under the No Project Alternative would be required to incorporate all the City's SCAs, as well as adhere to the City's design review process. Development under the No Project Alternative would be substantially less than with the Project, therefore the aesthetics, shadow and wind effects from that development likely would be less than what would occur with development under the Project. In particular, the substantial development in the Broadway/Valdez and Victory Court areas would not occur, and less overall housing in the cumulative context is assumed without the Project. Given that these major developments would not occur, any overall adverse change in aesthetic character, shadow and wind effects from the No Project Alternative development within the cumulative context (that is not assumed with the Project in the cumulative context) is considered less than what could adversely change with the Project in the cumulative context). While still considered less than significant (and not resulting from changes to existing conditions, which the CEQA analysis focuses on), it is worth noting that implementation of the Project would result in improved aesthetic conditions in the Project Area that would not occur under the No Project Alternative. Therefore, existing adverse conditions would continue under the No Project. However, overall, impacts of the No Project and any existing contribution to any cumulative adverse change would not be considerable. The impact would be less than significant, as with the Project.

¹ Comparative discussion of SU impacts are shown in ***bold italic*** text.

**TABLE 5-1
ALTERNATIVE 1 (NO PROJECT) COMPARED ONLY TO
DEVELOPMENT FACILITATED BY THE PROPOSED AMENDMENTS^a**

	Proposed Amendments	Alternative 1 (No Project)	% Change
Broadway-Valdez Triangle Development			
Retail (sf)	1,107,000	0	100%
Hotel (sf)	150,000	0	100%
Residential (units)	752	391 ^b	-48%
Victory Court-associated Development			
Retail (sf)	180,000	0	100%
Office (sf)	540,000	0	100%
Residential (units)	700	0	100%
Ballpark (seats)	39,000	0	100%
1800 San Pablo			
Entertainment Retail	110,000	70,000	-36%
Affordable Housing			
Residential (units)	Up to 822	0 ^c	100%
Other Potential Development (Cumulative)			
City Center T-5/6 (sf) ^d	607,500	607,500	0%
City Center T-12 (sf) ^d	695,000	695,000	0%
1100 Broadway (sf) ^d	320,000	320,000	
Other Approved and Predevelopment Housing	4,029	3,568	-11%
Population ^e	10,286	6,462	-37%
Employment	10,635	5,473	-49%

^a The Proposed Amendments (Project) totals shown at the top portion of the table include only the development that would likely occur with the Proposed Amendments (as described in Table 3-1 in Chapter 3, Project Description, and detailed in Tables 4.11-7 and 4.11-8 in Section 4.11, *Population, Employment and Housing*, in this Draft EIR). The lower portion of the table includes other potential cumulative development that may occur even without the Proposed Amendments, in order to allow comparisons of the Proposed Amendments to the No Project Alternative. The detailed development tables are in Tables F-2 and F-5 in Appendix F to this Draft EIR.

^b 391 approved units not considered in the Housing Element.

^c No affordable housing production obligation would occur without the Proposed Amendments.

^d Total square footage include office and retail/commercial uses, detailed in Table F-2 in Appendix F to this Draft EIR.

^e Based on total households, including affordable units, detailed in Table F-5 in Appendix F to this Draft EIR.

SOURCE: Hausrath Economics Group, 2010. ESA 2011.

The No Project Alternative would result in the same less than significant aesthetics, shadow and wind impacts identified with the Project. This is the same finding as for the Reduced Growth Alternative and the Victory Court Use Alternative.

Air Quality

Given the substantially less development and related construction activity that would occur under the No Project Alternative compared to the Project, and the proportionally fewer new residents and workers that would occur in the Project Area, air quality emissions and the potential for exposing new residents to air pollutants would be less than that identified for the Project.

Therefore, the two SU air quality impacts identified with the Project (Impact AIR-3, exposure

to gaseous TACs, and AIR-4, exposure to substantial and frequent odors) would continue to be SU under the No Project Alternative since new residential development (although less than with the Project) would still occur in the Project Area and potentially locate new residents near gaseous TAC and odor sources. The No Project Alternative also would result in the same less than significant air quality impacts that would occur with the Project, and the No Project Alternative would be subject to the same air quality SCAs that would apply to the Project.

Overall, the No Project Alternative would result in the same SU and less-than-significant air quality impacts identified with the Project, even though development would be substantially less compared to the Project. This is the same finding as for the Reduced Growth Alternative and the Victory Court Use Alternative.

Biological Resources

Under the No Project Alternative, development would still occur in the Project Area and the construction activities and operation of development could impact biological resources. Similar to the development facilitated by the Proposed Amendments, individual projects would be required to conform to all the City's SCAs. Overall, given its reduced development, the No Project Alternative would maintain the same less-than-significant impacts on biological resources identified with the Project, even though construction and development operations would be relatively less. This is the same finding as for the Reduced Growth Alternative and the Victory Court Use Alternative.

Cultural Resources

Under the No Project Alternative, although there would be substantially less development compared to the Project, there would still be the potential for development to effect historical resources because there are so many historic buildings clustered in the Project Area. *Therefore, the potential SU historic resources impacts that would occur if development is unable to avoid, adaptively reuse, or appropriately relocate historically significant structures (Impacts CUL-1 and CUL-5, impacts to resources – project and cumulative), would continue to be SU as identified with the Project.* Mitigation Measure CUL-1 identified with the Project would also apply to development of the No Project Alternative, even though implementation of these mitigation measures would not reduce the impact to less than significant.

All other cultural resources impacts with the No Project Alternative would be less than significant or reduced to less than significant with mitigations, as identified with the Project. Therefore, overall impacts to cultural resources under the Reduced Growth Alternative would result in the same SU and less-than-significant impacts as the Project, even though development operations would be relatively less. This is the same finding as for the Reduced Growth Alternative and the Victory Court Use Alternative.

Geology, Soils and Geohazards

Under the No Project Alternative, development would still occur in the Project Area and the construction activities and operation of development could expose residents to geologic hazards

including strong ground shaking during a seismic event, as under the Project. However, as discussed above, new development would be at a smaller scale compared to the Project, and would therefore result in fewer new residents and workers in the Project Area. As with the development facilitated by the Project, individual projects would be required to incorporate all applicable SCAs. Thus, the No Project Alternative would result the same less-than-significant impacts to geology, soils and geohazards as identified with the Project, even though the extent of exposure and risks would be reduced given the reduced development and population. This is the same finding as for the Reduced Growth Alternative and the Victory Court Use Alternative.

Greenhouse Gases and Climate Change

The reduced development related construction, residents and workers that would occur under the No Project Alternative would generate less annual greenhouse gas emissions compared to the Project. Therefore, as with the Project, the greenhouse gas emissions impacts would continue to be less than significant and SCA B, *GHG Reduction Plan*, would still be incorporated in future developments, as applicable. Overall, the No Project Alternative would result in the same less-than-significant greenhouse gases and climate change impacts identified with the Project, since development would be substantially less compared to the Project. This is the same finding as for the Reduced Growth Alternative and the Victory Court Use Alternative.

Hazardous Materials

Under the No Project Alternative, development would still occur in the Project Area and the construction activities involving demolition, soil disturbance, excavation, and trenching could continue to potentially expose construction workers and residents to potential hazards and hazardous materials as identified for Project. These potential hazardous materials include asbestos, PCBs, lead-based paint, contents of underground and aboveground storage tanks, and potentially contaminated soil and water. As with the Project, any new construction would incorporate applicable City SCAs, and therefore would result in the same less-than-significant impacts associated with hazardous materials and hazards compared to the Project, even though the extent of exposure would be less given the reduced development that would occur under the No Project Alternative. While still considered less than significant (and not resulting from changes to existing conditions, which the CEQA analysis focuses on), it is worth noting that implementation of the Project could result in remediation or removal of existing hazardous conditions on redevelopment sites - improvements that would not occur with the No Project Alternative. Moreover, the No Project Alternative could avoid exposures during construction that would occur with construction of the Project. Overall, the impact of the No Project Alternative would be less than significant, as with the Project. This is the same finding as for the Reduced Growth Alternative and the Victory Court Use Alternative.

Hydrology and Water Quality

Under the No Project Alternative, development would still occur in the Project Area and the construction activities could lead to increased contaminants being washed into San Francisco Bay. However, as discussed above, the No Project Alternative would have less new development

than the Project. Any development would incorporate the City's applicable SCAs and implement best management practices. Therefore, impacts to water quality under the No Project Alternative would continue to be less than significant. This is the same finding as for the Reduced Growth Alternative and the Victory Court Use Alternative.

Land Use, Plans and Policies

Under the No Project Alternative, development would still occur in the Project Area, but at a substantially less amount. All new development would be required to be consistent with the General Plan and current Oakland Zoning designations. Further, as with the Project, any new construction would be subject to the City's SCAs. The reduced development would not introduce land uses unlike those identified with the Project or locate them in a manner that would adversely affect existing communities or natural resources more than would the Project. Therefore, the No Project Alternative would result in the same less-than-significant land use impacts identified with the Project, although development would be less. This is the same finding as for the Reduced Growth Alternative and the Victory Court Use Alternative.

Noise

Given the substantially less development and related construction activity that would occur under the No Project Alternative compared to the Project, and the proportionally fewer new residents and workers that would occur in the Project Area, construction and operational noise impacts would be less than identified with the Project. Therefore, the No Project Alternative would have the same less-than-significant noise impacts as would occur with the Project, and the No Project Alternative would incorporate the same noise SCAs that would apply to the Project. The SU noise impacts identified with the Project only result from construction, special events and operation of the Victory Court ballpark. The Victory Court ballpark would not occur with the No Project Alternative. ***Therefore, the three SU noise impacts identified with the Project (Impact NOI-2, pile driving for Victory Court ballpark; Impacts NOI-4, special event noise from the ballpark; and Impact NOI-7, cumulative construction and operation noise contributions primarily from the Victory Court ballpark) would be avoided under the No Project Alternative.*** Overall, the No Project Alternative, similar to the Victory Court Use Alternative, would avoid the SU noise impacts and have the same less-than-significant noise impacts identified with the Project since development would be substantially less compared to the Project. The Reduced Growth Alternative would still have each of the SU noise impacts avoided by the No Project Alternative.

Population, Housing, and Employment²

Under the No Project Alternative there would be substantially less development in the Project Area compared to development described for the Project. As a result, there would be substantially less total potential population (6,462 persons compared to 10,286, or 37 percent) and employment (5,473 jobs compared to 10,635, or 49 percent) under this Alternative. Total housing units would

² Totals discussed reflect the *total potential* development that could occur in the Project Area, including cumulative development that could occur even without the Project, in order to allow comparisons to the No Project Alternative.

also be substantially fewer than with the Project (3,959 units compared to 6,303, or 38 percent³), since the Broadway/Valdez and Victory Court projects would not occur, and since the affordable housing production obligations under California redevelopment law would not apply (since the Redevelopment Plan would not be amended). Some development would occur under the No Project Alternative, so there would continue to be displacement of existing housing and business, however, not to the extent that would likely occur with the Project given the substantial reduction in development. Therefore, the No Project Alternative would have the same less-than-significant impacts regarding the displacement of substantial housing, people, businesses or jobs, although the increase in each would be substantially less than with the Project. This is the same finding as for the Reduced Growth Alternative.

Public Services and Recreation Facilities

Although there will be an increase in population associated with the development that would occur under the No Project, the demand for public services and recreation facilities, and the use of such facilities, would be less than would occur with the Project. Compared to the Project demands, less police, fire and emergency services and facilities would be required, fewer students would be generated by the reduced housing, and the demand for and use of park and recreational facilities would be less. Therefore, the No Project Alternative would have the same less-than-significant public services and recreation facilities impacts as identified with the Project. This is the same finding as for the Reduced Growth Alternative and the Victory Court Use Alternative.

Transportation and Circulation

The No Project Alternative would generate about 90 percent fewer trips during both AM and PM peak hours than would occur with the Project. This is primarily because the Broadway/Valdez area and Victory Court would not be developed, and the 1800 San Pablo development would be substantially reduced compared to the Project.

The reduced trip generation under the No Project Alternative would result in fewer SU impacts. ***SU impacts regarding traffic volumes at the Existing Plus Project scenario (TRA-1) and 2015 Baseline Plus Project scenario (TRA-2) would be avoided under the No Project Alternative; no other segments would be impacted. The No Project Alternative would avoid five of the six SU impacted roadway segments that would occur with the Project (TRA-3):***

- Eastbound 7th Street east of Fallon Street (#6) during the PM peak hour
- Eastbound Grand Avenue between Harrison Street and I-580 (#15) during the PM peak hour
- Westbound Embarcadero east of Oak Street (#17) during both AM and PM peak hour
- Embarcadero east of 5th Avenue (#18) in the eastbound direction during the PM peak hour and in the westbound Embarcadero during both AM and PM peak hours
- Northbound 5th Avenue south of East 12th Street (#26) during the PM peak hour

³ See Tables F-1, F-2 and F-5 in Appendix F to this Draft EIR.

Only the following roadway segment would remain SU with the No Project Alternative:

- Northbound Broadway north of Grand Avenue (#20) during the PM peak hour.

Also, because the Victory Court ballpark would not be constructed under this alternative, *the SU traffic impact related to baseball games and special events (Impact TRA-4) also would be avoided under the No Project Alternative*; no significant impact would occur.

Also, since the No Project alternative would not result in development near the railroad tracks in the Victory Court area, *impacts regarding at-grade railroad crossings (TRA-8) would be reduced from SU to less than significant*.

Therefore, under the No Project Alternative SU Impacts TRA-1, TRA-2 and TRA-4 would not occur. SU Impact TRA-3 would be avoided at five of six roadway segments, and would continue to be SU for the Northbound Broadway north of Grand Avenue roadway segment. SU Impact TRA-8 would be reduced from SU to less than significant.

Compared to this No Project Alternative, the Reduced Growth Alternative would avoid only one of the two SU impacts for segments under Existing Plus Project in TRA-1, and one less SU impact for segments under 2035 Baseline Plus Project in TRA-3.

Utilities and Service Systems

Under the No Project Alternative, the demands for utilities and service systems would be substantially less than under the Project given the reduced development that would occur. There would be notably less demand for water and energy services, and less need for increased wastewater and solid waste disposal. Therefore, the No Project Alternative would have the same less-than-significant utilities and service systems impacts as identified with the Project. This is the same finding as for the Reduced Growth Alternative.

5.4.2 Reduced Growth Alternative 2

Description

The Reduced Growth Alternative looks at the impacts on environmental effects by reducing the extent of growth and development anticipated within the Project Area as a result of the Proposed Amendments. Therefore, the growth of new businesses and population would also be less than the Project. In addition, the affordable housing production would also be less than under the Project.

Under this Alternative, the Broadway/Valdez Triangle development and the Victory Court-associated development would be reduced as shown in **Table 5-2** below. This alternative also assumes that the 39,000-seat ballpark would be built.

**TABLE 5-2
ALTERNATIVE 2 (REDUCED GROWTH) COMPARED ONLY TO
DEVELOPMENT FACILITATED BY THE PROPOSED AMENDMENTS^a**

	Proposed Amendments	Alternative 2 (Reduced Growth)^b	% Change
Broadway-Valdez Triangle Development			
Retail (sf)	1,107,000	682,000	-39
Hotel (sf)	150,000	85,000	-44%
Residential (units)	752	544	-28%
Victory Court-associated Development			
Retail (sf)	180,000	90,000	-50%
Office (sf)	540,000	270,000	-50%
Residential (units)	700	350	-50%
Ballpark (seats)	39,000	39,000	0%
1800 San Pablo			
Entertainment Retail	110,000	110,000	0%
Affordable Housing			
Residential (units)	Up to 822	Up to 738	-10%
Other Potential Development (Cumulative)			
City Center T-5/6 (sf) ^c	607,500	607,500	0%
City Center T-12 (sf) ^c	695,000	695,000	0%
1100 Broadway (sf) ^c	320,000	320,000	
Other Approved and Predevelopment Housing (units)	4,029	4,029	0%
Population (persons) ^d	10,286	9,238	-10%
Employment (jobs)	10,635	8,459	-20%

^a The Proposed Amendments (Project) totals shown at the top portion of the table include only the development that would only likely occur with the Proposed Amendments (as described in Table 3-1 in Chapter 3, Project Description, and detailed in Tables 4.11-7 and 4.11-8 in Section 4.11, *Population, Employment and Housing*, in this Draft EIR). The lower portion of the table includes other potential cumulative development that may occur even without the Proposed Amendments, in order to allow comparisons of the Proposed Amendments to the No Project Alternative. The detailed development tables are in Tables F-3 and F-6 in Appendix F to this Draft EIR.

^b Broadway/Valdez District Specific Plan Alternatives: Valdez Triangle, January 2010.

^c Total square footage include office and retail/commercial uses, detailed in Table F-3 in Appendix F to this Draft EIR.

^d Based on total households, including affordable units, detailed in Table F-6 in Appendix F to this Draft EIR.

SOURCE: Hausrath Economics Group, 2010. ESA 2011.

Other projects under this alternative would continue to be developed as described for the Project. As required under the law, 15 percent of all housing units would be affordable housing and could receive funding from the Proposed Amendments. The number of required units supported by the Redevelopment Plan with the Proposed Amendments would be reduced also, as shown in Table 5-2.

Under this alternative, the Redevelopment Plan would continue to fund and implement those programs it already has in place within the Project Area, as described in Table 3-1 in Chapter 3, Project Description. With reduced tax revenues generated by less development under this alternative, however, these programs also would be reduced given less supporting funds.

Comparison of Alternative 2 (Reduced Growth) Impacts to the Project Impacts⁴

Aesthetics, Shadow and Wind

Similar to the development facilitated by the Project, individual projects that would occur under the Reduced Growth Alternative would be required to incorporate all the City's SCAs, as well as adhere to the City's design review process. Development under the Reduced Growth Alternative would be slightly less than with the Project, therefore, the aesthetics, shadow and wind effects from that development likely would be less than what would occur with development under the Project. However, although reduced from the Project, substantial development would still occur in the Broadway/Valdez and Victory Court areas. While the same less-than-significant aesthetics, shadow and wind impacts would occur with the Reduced Growth Alternative as with the Project, the contribution of potential adverse changes to aesthetics, shadow and wind conditions under this Alternative would also be considered the same as with the Project.

Air Quality

Under the Reduced Growth Alternative, the Broadway/Valdez and Victory Court projects would be approximately half the size of those developments assumed with the Project. All other development and programs would be the same as described for the Project. As a result, the less development and related construction activity, and the proportionally fewer new residents and workers that would occur in the Project Area compared to that with the Project, would result in reduced air quality emissions and the potential for exposing new residents to air pollutants would be less than that identified for the Project. ***Therefore, as with the No Project Alternative, the two SU air quality impacts identified with the Project (Impact AIR-3, exposure to gaseous TACs, and AIR-4, exposure to odors) would continue to be SU under the Reduced Growth Alternative, since new residential development (although less than with the Project) would still occur in the Project Area and potentially locate new residents near gaseous TAC and odor sources.*** All other air quality impacts would be less than significant as identified with the Project, and the Reduced Growth Alternative development would be subject to the same air quality SCAs that would apply to the Project.

Overall, the Reduced Growth Alternative would result in the same SU and less-than-significant air quality impacts identified with the Project, even though development would be somewhat less than with the Project. This is the same finding as for the No Project Alternative and the Victory Court Use Alternative.

Biological Resources

Under the Reduced Growth Alternative, less development would occur compared to the Project. The construction and location of the development that would occur would not be substantially different from that of the Project, and the development would incorporate the City's SCAs.

⁴ Comparative discussion of SU impacts are shown in ***bold italic*** text.

Therefore, the reduced development would result in similar less-than-significant impacts on biological resources compared to the Project, and the effect would be slightly reduced given the reduced development that would occur. This is the same finding as for the No Project Alternative and the Victory Court Use Alternative.

Cultural Resources

Under the Reduced Growth Alternative, although there would be slightly less development compared to the Project, there would still be the potential for development to effect historical resources because there are so many historic buildings clustered in the Project Area. ***Therefore, the potential SU historic resources impacts that would occur if development is unable to avoid, adaptively reuse, or appropriately relocate historically significant structures (Impacts CUL-1 and CUL-5, impacts to historic and cultural resources – project and cumulative), as identified with the Project, would still occur.***

All other cultural resources impacts with the Reduced Growth Alternative would remain less than significant or reduced to less than significant with mitigations, as identified with the Project. Overall, impacts to cultural resources under the Reduced Growth Alternative would result in the same SU and less-than-significant impacts as the Project, even though development would be slightly less with this Alternative. This is the same finding as for the No Project Alternative and the Victory Court Use Alternative.

Geology, Soils and Geohazards

Under the Reduced Growth Alternative, the reduced development and population would still result in the exposure of residents to geologic hazards including strong ground shaking during a seismic event, as under the Project. As with the development facilitated by the Project, individual projects would be required to incorporate all applicable City SCAs. Thus, the Reduced Growth Alternative would result the same less-than-significant impacts to geology, soils and geohazards as identified with the Project, even though the extent of exposure and risks would be reduced given the reduced development and population. This is the same finding as for the No Project Alternative and the Victory Court Use Alternative.

Greenhouse Gases and Climate Change

The reduced development related construction, residents and workers that would occur under the Reduced Growth Alternative would generate less annual greenhouse gas emissions compared to the Project. Therefore, as with the Project, the greenhouse gas emissions impacts would be less than the applicable thresholds and SCA B, *GHG Reduction Plan* would still apply and ensure the impact is reduced to less than significant. Overall, the Reduced Growth Alternative would result in the same less-than-significant greenhouse gases and climate change impacts identified with the Project since development would be somewhat less than with the Project. This is the same finding as for the No Project Alternative.

Hazardous Materials

Under the Reduced Growth Alternative, although there would be slightly less development compared to the Project, there would still be the potential for construction activities involving demolition, soil disturbance, excavation, and trenching to potentially expose construction workers and residents to potential hazards and hazardous materials, as identified with the Project. These potential hazardous materials include asbestos, PCBs, lead-based paint, contents of underground and aboveground storage tanks, and potentially contaminated soil and water. As with the Project, any new construction would incorporate applicable City SCAs. The construction, operation and population associated with the approximately 145 more housing units that would occur with the Project would not result in substantially increased risk that would not be addressed with incorporation of the City SCAs. Therefore, the Reduced Growth Alternative would result in the same less-than-significant impacts associated with hazardous materials and hazards compared to the Project, even though the extent of exposure would be less given the reduced development that would occur under the Reduced Growth Alternative. This is the same finding as for the No Project Alternative and the Victory Court Use Alternative.

Hydrology and Water Quality

Under the Reduced Growth Alternative, slightly less development would occur in the Project Area compared to the Project, and the construction activities could still lead to increased contaminants being washed into San Francisco Bay. Any development would incorporate the City's applicable SCAs and implement best management practices. Therefore, impacts to water quality under the No Project Alternative would continue to be less than significant. This is the same finding as for the No Project Alternative and the Victory Court Use Alternative.

Land Use, Plans and Policies

Under the Reduced Growth Alternative, slightly less development would occur in the Project Area. However, all new development still would be required to be consistent with the General Plan and current Oakland Zoning designations. Further, as with the Project, the new construction would be subject to the City's SCAs. The reduced development would not introduce land uses unlike those identified with the Project or locate them in a manner that would adversely affect existing communities or natural resources more than would the Project. Therefore, the Reduced Growth Alternative would result in the same less-than-significant land use impacts identified with the Project, although development would be less. This is the same finding as for the No Project Alternative and the Victory Court Use Alternative.

Noise

The Reduced Growth Alternative would result in less construction activity and development compared to the Project. Therefore, this Alternative would generate less construction noise and groundborne vibration and cause less of an increase to ambient noise levels, and the less-than-significant impacts would still be less than significant with the Reduced Growth Alternative. The same noise SCAs that would apply to the Project would be incorporated with development under the Reduced Growth Alternative. The SU noise impacts identified with the Project only result

from the construction, special events and operation of the Victory Court ballpark, which would also be developed under this Alternative; 50 percent of the ballpark-associated mixed use development. *Therefore, the three SU noise impacts identified with the Project (Impact NOI-2, pile driving for Victory Court ballpark; Impacts NOI-4, special event noise from the ballpark; and Impact NOI-7, cumulative construction and operation noise contributions primarily from the Victory Court ballpark) would continue to occur under the Reduced Growth Alternative.* Overall, the Reduced Growth Alternative would have the same SU and less-than-significant noise impacts identified with the Project because the 39,000-seat ballpark would be developed to the same level as described for the Project. The No Project Alternative and the Victory Court Use Alternative avoid the SU noise impacts identified for the Project.

Population, Housing, and Employment⁵

Under the Reduced Growth Alternative there would be less development in the Project Area compared to development described for the Project. As a result, there would be slightly less total potential population (9,238 persons compared to 10,286, or 10 percent) and employment (8,459 jobs compared to 10,635, or 20 percent) under this Alternative. Total housing units would also be fewer than with the Project (5,661 units compared to 6,303, or 10 percent⁶), since the Broadway/Valdez and Victory Court projects would be developed at about half of what is assumed with the Project, and since the number of affordable housing units pursuant to the production obligations under California redevelopment law would also be less (given less development in the Project Area). There would continue to be displacement of existing housing and businesses under the Reduced Growth Alternative, however, not to the extent that would likely occur with the Project given the reduced development. Therefore, the Reduced Growth Alternative would have the same less-than-significant impacts regarding the displacement of substantial housing, people, businesses or jobs, although the increase in each would be less than with the Project. This is the same finding as for the No Project Alternative and the Victory Court Use Alternative.

Public Services and Recreation Facilities

Under the Reduced Growth Alternative, there will be an increase in population associated with the development that would occur, however, the demand for public services and recreation facilities, and the use of such facilities, would be similar to what would occur with the Project. As discussed above, this Alternative would result in only 10 percent fewer persons and housing units compared to the Project. Although the reduction would be minimal, less police, fire and emergency services and facilities would be required, fewer students would be generated by the reduced housing, and the demand for and use of park and recreational facilities would be less. Therefore, the Reduced Growth Alternative would have the same less-than-significant public services and recreation facilities impacts as identified with the Project. This is the same finding as for the No Project Alternative and the Victory Court Use Alternative.

⁵ Totals discussed reflect the *total potential* development that could occur in the Project Area, including cumulative development that could occur even without the Project, in order to allow comparisons to the No Project Alternative.

⁶ See Tables F-1, F-3 and F-6 in Appendix F to this Draft EIR.

Transportation and Circulation

The Reduced Growth Alternative would generate about 48 percent fewer trips during both AM and PM peak hours than would occur with the Project. This is primarily because of the reduced development for the Broadway/Valdez and Victory Court projects. The reduced trip generation under the Reduced Growth Alternative would result in fewer SU impacts.

The following SU impacted roadway segment that would occur with the Project under Existing Plus Project conditions (TRA-1) would be avoided; no significant impact would occur:

- Eastbound Grand Avenue between Harrison Street and I-580 (Segment #15) during PM peak hour

Only the following roadway segment would remain SU:

- Embarcadero east of 5th Avenue (#18) in the eastbound direction during the PM peak hour

The following two of the six SU impacted roadway segments that would occur with the Project under 2035 Cumulative Plus Project conditions (TRA-3) would be avoided; no significant impact would occur:

- Eastbound 7th Street east of Fallon Street (#6) during the PM peak hour
- Eastbound Grand Avenue between Harrison Street and I-580 (#15) during the PM peak hour

The following four roadway segments would remain SU:

- Westbound Embarcadero east of Oak Street (#17) during both AM and PM peak hour
- Embarcadero east of 5th Avenue (#18) in the eastbound direction during the PM peak hour and in the westbound Embarcadero during both AM and PM peak hours
- Northbound Broadway north of Grand Avenue (#20) during the PM peak hour
- Northbound 5th Avenue south of East 12th Street (#26) during the PM peak hour

Compared to this Reduced Growth Alternative, the No Project Alternative would also avoid all SU impacts for segments under Existing Plus Project scenario in TRA-1; all SU impacts for segments under 2015 Baseline Plus Project in TRA-2; additional segments with Impact TRA-3 (although some would remain SU); Impact TRA-4 associated with the ballpark; and Impact TRA-8 regarding at-grade railroad crossings. All other less than significant impacts identified for the Project would also remain under the Victory Court Use Alternative.

Utilities and Service Systems

Under the Reduced Growth Alternative, the demands for utilities and service systems would be less than under the Project given the reduced development that would occur. There would be slightly less demand for water and energy services, and less need for increased wastewater and solid waste disposal. Therefore, the Reduced Growth Alternative would have the same less-than-

significant utilities and service systems impacts as identified with the Project. This is the same finding as for the No Project Alternative and the Victory Court Use Alternative.

5.4.3 Victory Court Use Alternative 3

Description

The Victory Court Use Alternative looks at the impacts on environmental effects of changing the configuration of the Victory Court development to eliminate the ballpark and the associated residential units and replace those components with research and development uses. Therefore, under this alternative, the development facilitated by the Proposed Amendments would result in greater growth of new businesses, but less affordable housing production than under the Project in the Project Area.

Under this Alternative, the Victory Court-associated development would be reduced as shown in **Table 5-3** below.

Other projects under this alternative would continue to be developed as described for the Project. As required under the law, 15 percent of all housing units would be affordable housing and could receive funding from the Proposed Amendments. With the elimination of housing units associated with the Victory Court development, the total number of affordable housing units supported by the Proposed Amendments would be reduced also, as shown in Table 5-2.

Under this alternative, the Redevelopment Plan would continue to fund and implement those programs it already has in place within the Project Area, as described in Table 3-1 in Chapter 3, Project Description.

Comparison of Alternative 3 (Victory Court Use) Impacts to the Project Impacts⁷

Aesthetics, Shadow and Wind

Similar to the development facilitated by the Project, individual projects that would occur under the Reduced Growth Alternative would be required to incorporate all the City's SCAs, as well as adhere to the City's design review process. Development under this alternative would be significantly different than with the Project because the ballpark, a very large structure, would be replaced by individual smaller research and development facilities. Therefore, the aesthetics, shadow and wind effects from that development likely would be less than what would occur with development under the Project. However, although different from the Project, substantial development would still occur in the Victory Court area. While the same less-than-significant aesthetics, shadow and wind impacts would occur with the Victory Court Use Alternative as with the Project, the contribution of potential adverse changes to aesthetics, shadow and wind conditions under this Alternative would also be considered the same as with the Project.

⁷ Comparative discussion of SU impacts are shown in ***bold italic*** text.

**TABLE 5-3
ALTERNATIVE 3 (VICTORY COURT USE) COMPARED ONLY TO
DEVELOPMENT FACILITATED BY THE PROPOSED AMENDMENTS^a**

	Proposed Amendments	Alternative 3 (Victory Court Use)	% Change
Broadway-Valdez Triangle Development			
Retail (sf)	1,107,000	1,107,000	0%
Hotel (sf)	150,000	150,000	0%
Residential (units)	752	752	0%
Victory Court-associated Development			
Retail (sf)	180,000	180,000	0%
Office (sf)	540,000	500,000	-8%
Research & Development (sf)	0	450,000	+100%
Residential (units)	700	0	-100%
Ballpark (seats)	39,000	0	-100%
1800 San Pablo			
Entertainment Retail	110,000	110,000	0%
Affordable Housing			
Residential (units)	Up to 822	Up to 717	13%
Other Potential Development (Cumulative)			
City Center T-5/6 (sf) ^c	607,500	607,500	0%
City Center T-12 (sf) ^c	695,000	695,000	0%
1100 Broadway (sf) ^c	320,000	320,000	
Other Approved and Predevelopment Housing (units)	4,029	4,029	0%
Population (persons) ^d	10,286	8,974	-13%
Employment (jobs) ^e	10,635	11,375	7%

^a The Proposed Amendments (Project) totals shown at the top portion of the table include only the development that would likely occur with the Proposed Amendments (as described in Table 3-1 in Chapter 3, Project Description, and detailed in Tables 4.11-7 and 4.11-8 in Section 4.11, *Population, Employment and Housing*, in this Draft EIR). The lower portion of the table includes other potential cumulative development that may occur even without the Proposed Amendments, in order to allow comparisons of the Proposed Amendments to the No Project Alternative. The detailed development tables are in Tables F-4 and F-7 in Appendix F to this Draft EIR.

^b Broadway/Valdez District Specific Plan Alternatives: Valdez Triangle, January 2010.

^c Total square footage include office and retail/commercial uses, detailed in Table F-4 in Appendix F to this Draft EIR.

^d Based on total households, including affordable units, detailed in Table F-7 in Appendix F to this Draft EIR.

^e Research & Development (R&D) employment estimated at density factor of approximately 425 gross square foot of R&D floor area per employee.

SOURCE: Hausrath Economics Group, 2010. ESA 2011.

The Victory Court Alternative would result in the same less than significant aesthetics, shadow and wind impacts identified with the Project. This is the same finding as for the No Project Alternative and the Reduced Growth Alternative.

Air Quality

Under the Victory Court Use Alternative, the ballpark and associated housing would be replaced with research and development facilities. All other development and programs would be the same as described for the Project. Construction impacts would be less than for the Project because the

major construction technique, such as extensive pile driving and other noisy activities associated with the ballpark would not be required and would be replaced by standard construction techniques for research and development facilities. As a result, the less development and related construction activity, and fewer new residents that would occur in the Project Area compared to that with the Project, would result in reduced air quality emissions and the potential for exposing new residents to air pollutants would be less than that identified for the Project. ***Therefore, as with the No Project Alternative and the Reduced Growth Alternative, the two SU air quality impacts identified with the Project (Impact AIR-3, exposure to gaseous TACs, and AIR-4, exposure to odors) would continue to be SU under the Victory Court Use Alternative, since new residential development (although less than with the Project) would still occur in the Project Area and potentially locate new residents near gaseous TAC and odor sources.*** All other air quality impacts would be less than significant as identified with the Project, and the Victory Court Use Alternative development would be subject to the same air quality SCAs that would apply to the Project.

Overall, the Victory Court Use Alternative would result in the same SU and less-than-significant air quality impacts identified with the Project, even though construction would be less intense than with the Project. This is the same finding as for the No Project Alternative and the Reduced Growth Alternative.

Biological Resources

Under the Victory Court Use Alternative, the location of the development that would occur would be similar to that of the Project. The construction intensity of the development would be less than under the Project and similar to the Project, would be required to incorporate the City's SCAs. Therefore, the reduced construction intensity would result in similar less-than-significant impacts on biological resources compared to the Project, and the effect would be slightly reduced given the reduced construction intensity that would occur. This is the same finding as for the No Project Alternative and the Reduced Growth Alternative.

Cultural Resources

Under the Victory Court Use Alternative development would still occur in the same locations as for the Project. There would still be the potential for development to effect historical resources because there are so many historic buildings clustered in the Project Area, as well as historic districts near the Victory Court site. ***Therefore, the potential SU historic resources impacts that would occur if development is unable to avoid, adaptively reuse, or appropriately relocate historically significant structures (Impacts CUL-1 and CUL-5, impacts to historic and cultural resources – project and cumulative), as identified with the Project, would still occur.***

All other cultural resources impacts with the Victory Court Use Alternative would remain less than significant or reduced to less than significant with mitigations, as identified with the Project. Overall, impacts to cultural resources under the Victory Court Use Alternative would result in the same SU and less-than-significant impacts as the Project. This is the same finding as for the No Project Alternative and the Reduced Growth Alternative.

Geology, Soils and Geohazards

Under the Victory Court Alternative, the reduced population would still result in the exposure of residents to geologic hazards including strong ground shaking during a seismic event, as under the Project. As with the development facilitated by the Project, individual projects would be required to incorporate all applicable City SCAs. Thus, the Victory Court Use Alternative would result the same less-than-significant impacts to geology, soils and geohazards as identified with the Project, even though the extent of exposure and risks would be reduced given the reduced population. This is the same finding as for the No Project Alternative and the Reduced Growth Alternative.

Greenhouse Gases and Climate Change

The reduced construction and residents that would occur under the Victory Court Use Alternative would generate less annual greenhouse gas emissions compared to the Project. Therefore, as with the Project, the greenhouse gas emissions impacts would continue to be less than significant with SCA B, *GHG Reduction Plan*. Overall, the Reduced Growth Alternative would result in the same less-than-significant greenhouse gases and climate change impacts identified with the Project, even though construction would be less intensive than with the Project. This is the same finding as for the No Project Alternative and the Reduced Growth Alternative.

Hazardous Materials

Under the Victory Court Use Alternative, although there would be less intensive construction compared to the Project, there would still be the potential for construction activities involving demolition, soil disturbance, excavation, and trenching to potentially expose construction workers and residents to potential hazards and hazardous materials, as identified with the Project. These potential hazardous materials include asbestos, PCBs, lead-based paint, contents of underground and aboveground storage tanks, and potentially contaminated soil and water. As with the Project, any new construction would incorporate applicable City SCAs. The construction, operation and population associated with the housing units that would occur with the Project would not result in substantially increased risk that would not be addressed with incorporation of the City SCAs. Therefore, the Victory Court Use Alternative would result in the same less-than-significant impacts associated with hazardous materials and hazards compared to the Project, even though the extent of exposure would be less given the less intensive construction that would occur under the Victory Court Use Alternative. This is the same finding as for the No Project Alternative and the Reduced Growth Alternative.

Hydrology and Water Quality

Under the Victory Court Use Alternative, less construction would occur in the Project Area compared to the Project, but the construction activities could still lead to increased contaminants being washed into San Francisco Bay. Any development would incorporate the City's applicable SCAs and implement best management practices. Therefore, impacts to water quality under the No Project Alternative would continue to be less than significant. This is the same finding as for the No Project Alternative and the Reduced Growth Alternative.

Land Use, Plans and Policies

Under the Victory Court Use Alternative, development would occur in the Project Area. However, all new development still would be required to be consistent with the General Plan and current Oakland Zoning designations. The research and development use (which is not proposed at Victory Court with the Project) is consistent with the existing land use classification per the Estuary Policy Plan. Further, as with the Project, the new construction would be subject to the City's SCAs. The new development would not introduce land uses incompatible with existing surrounding uses or locate new uses in a manner that would adversely affect existing communities or natural resources more than would the Project. Therefore, the Victory Court Use Alternative would result in the same less-than-significant land use impacts identified with the Project. This is the same finding as for the No Project Alternative and the Reduced Growth Alternative.

Noise

The Victory Court Use Alternative would result in less intensive construction activity compared to the Project. Therefore, this Alternative would generate less construction noise and groundborne vibration and cause less of an increase to ambient noise levels, and the less-than-significant impacts would still be less than significant with the Victory Court Use Alternative. The same noise SCAs that would apply to the Project would be incorporated with development under the Victory Court Use Alternative. The SU noise impacts identified with the Project only result from the construction, special events and operation of the Victory Court ballpark, which would not be developed under this Alternative. ***Therefore, the three SU noise impacts identified with the Project (Impact NOI-2, pile driving for Victory Court ballpark; Impacts NOI-4, special event noise from the ballpark; and Impact NOI-7, cumulative construction and operation noise contributions primarily from the Victory Court ballpark) would not occur under the Victory Court Use Alternative.*** Overall, the Victory Court Use Alternative would avoid the SU impacts identified with the Project because the 39,000-seat ballpark would not be constructed under this alternative. The Victory Court Use Alternative would have the same less-than-significant noise impacts identified with the Project. This is the same finding as for the No Project Alternative.

Population, Housing, and Employment⁸

Under the Victory Court Use Alternative there would be less residential development (that associated with the development associated with the ballpark at Victory Court) and more jobs (that associated with research and development use) created in the Project Area compared to the Project. As a result, there would be slightly less total potential population (8,974 persons compared to 10,286, or 13 percent) and more employment (11,375 jobs compared to 10,635, or 7 percent) under this Alternative. Total housing units would also be fewer than with the Project (5,498 units compared to 6,303, or 13 percent⁹), since the Victory Court development would not include any residential development under this alternative. There would continue to be

⁸ As in Table 5-2, these totals reflect the *total potential* development that could occur in the Project Area, including cumulative development that could occur even without the Project, in order to allow comparisons to the No Project Alternative.

⁹ See Tables F-1, F-4 and F-7 in Appendix F to this Draft EIR.

displacement of existing housing and businesses under the Victory Court Use Alternative, similar to the Project. Therefore, the Victory Court Use Alternative would have the same less-than-significant impacts regarding the displacement of substantial housing, people, businesses or jobs. This is the same finding as for the No Project Alternative and the Reduced Growth Alternative.

Public Services and Recreation Facilities

Under the Victory Court Use Alternative, there will be a decrease in population associated with the elimination of residential units in the Victory Court development compared to the Project. The demand for public services and recreation facilities, and the use of such facilities, would be slightly less than what would occur with the Project. As discussed above, this Alternative would result in only fewer persons and housing units compared to the Project. Although the reduction would be minimal, less police, fire and emergency services and facilities would be required, fewer students would be generated by the reduced housing, and the demand for and use of park and recreational facilities would be less. Therefore, the Victory Court Use Alternative would have the same less-than-significant public services and recreation facilities impacts as identified with the Project. This is the same finding as for the No Project Alternative and the Reduced Growth Alternative.

Transportation and Circulation

The Victory Court Use Alternative would generate about 12 percent fewer trips during both AM and PM peak hours than would occur with the Project. This is because of the change in developments for the Victory Court project. The reduced trip generation under the Victory Court Use Alternative would result in fewer SU impacts.

The following SU impacted roadway segment that would occur with the Project under 2035 Cumulative Plus Project conditions (TRA-3) would be avoided; no significant impact would occur:

- Eastbound 7th Street east of Fallon Street (#6) during the PM peak hour

The following five roadway segments would remain SU:

- Eastbound Grand Avenue between Harrison Street and I-580 (#15) during the PM peak hour
- Westbound Embarcadero east of Oak Street (#17) during both AM and PM peak hour
- Embarcadero east of 5th Avenue (#18) in the eastbound direction during the PM peak hour and in the westbound Embarcadero during both AM and PM peak hours
- Northbound Broadway north of Grand Avenue (#20) during the PM peak hour
- Northbound 5th Avenue south of East 12th Street (#26) during the PM peak hour

Since the Victory Court ballpark would not be constructed under this alternative, ***the SU traffic impact related to baseball games and special events (Impact TRA-4) also would be avoided under this alternative; no significant impact would occur.***

Therefore, under the Victory Court Use Alternative SU Impact TRA-4 would not occur. SU Impact TRA-3 would be avoided at one of six roadway segments.

All other less than significant transportation and circulation impacts identified for the Project would also remain under the Victory Court Use Alternative.

Utilities and Service Systems

Under the Victory Court Use Alternative, the demands for utilities and service systems would be similar to the Project given that the research and development uses under this alternative would need services similar to the ballpark and residential development that would occur under the Project. There would be similar demand for water and energy services, and similar need for increased wastewater and solid waste disposal. Therefore, the Victory Court Use Alternative would have the same less-than-significant utilities and service systems impacts as identified with the Project. This is the same finding as for the No Project Alternative and the Reduced Growth Alternative.

5.5 Environmentally Superior Alternative

CEQA Guidelines requires that the EIR identify an environmentally superior alternative (CEQA Guidelines, Section 15126.6), which is the CEQA alternative that reduces or avoids the environmental impacts identified for the Redevelopment Plan with the Proposed Amendments to the greatest extent. The evaluation below first considers the extent to which each of the CEQA alternatives reduces or avoids the significant and unavoidable impacts identified with the Project. The extent to which an alternative reduces or avoids less-than-significant impacts identified with the Project is also considered, balanced by consideration of the extent to which the impact affects the physical environment. The comparison of impacts resulting with the Project and all of the alternatives discussed in this chapter is summarized in **Table 5-4, Summary Comparison of Impacts**, at the end of this chapter.

5.5.1 No Project Alternative

As summarized in Table 5-4 below, and described in the analysis in Section 5.4 above, the No Project Alternative would reduce significant and unavoidable impacts to less than significant. ***Under the No Project Alternative, the SU noise impacts (NOI-2, NOI-4 and NOI-7) and SU traffic impacts (TRA-1, TRA-2 and TRA-4) would no longer occur***; all except Impacts TRA-1 and TRA-2 are directly related to the construction, special events and operation of the 39,000-seat ballpark in the Victory Court area, which would not occur with the No Project Alternative. SU impacts TRA-1 and TRA-2 result from traffic volumes in Existing Plus Project and Cumulative 2015 Baseline Plus Project scenarios. The No Project Alternative would ***avoid SU impacts at five of six impacted roadway segments under TRA-3***, traffic volumes in 2035 Baseline Plus Project; no impact would occur at these five roadway segments. In addition, under the No Project Alternative, ***the SU cumulative impacts regarding the contribution to cumulative aesthetics (AES-6) given the substantially reduced development overall, and regarding railroad crossing safety (TRA-8) given***

that the Victory Court development, which is located near the active railroad crossings, also would not occur. No impacts would be greater than those identified with the Project.

However, the No Project Alternative would not meet the objectives of the Proposed Amendments to the Redevelopment Plan in that it would not contribute to the development, redevelopment, and private reinvestment to correct health and safety concerns and address economic and physical blight conditions in the Project Area. Further, Section 15126.6(e)(2) of the CEQA Guidelines requires that if the No Project Alternative is identified as the environmentally superior alternative, then the EIR shall identify another alternative as the environmentally superior alternative.

5.5.2 Reduced Growth Alternative

Like the No Project Alternative, the Reduced Growth Alternative would reduce the effects of each less-than-significant impacts identified with the Project given the reduced development, and would also meet most of the basic objectives of the Project, which are described in Chapter 3, Project Description. As with the No Project Alternative, under the Reduced Growth Alternative, *the SU noise and traffic impacts associate with the impacts directly related to the construction, special events and operation of the 39,000-seat ballpark in the Victory Court area (NOI-2, NOI-4, NOI-7 and TRA-4), and the SU traffic impacts regarding Existing Plus Project and 2015 Plus Project traffic volumes (TRA-1 and TRA-2) would no longer occur.* The SU Impacts that were avoided by the No Project Alternative, but that would still occur with the Reduced Growth Alternative are SU impacts regarding cumulative aesthetics (AES-6), and railroad crossing safety (TRA-8). No impacts would be greater than those identified with the Project.

5.5.3 Victory Court Use Alternative

As described in the analysis in Section 5.4 above, the Victory Court Use Alternative would reduce significant and unavoidable impacts to less than significant. *The Victory Court Use Alternative would avoid the SU noise impacts (NOI-2, NOI-4 and NOI-7); and would also avoid SU traffic impact TRA-4, and one out of the six impacted segments for TRA-3; the remaining five impacted segments for TRA-3 would be SU.* All the SU impacts except Impacts TRA-1 and TRA-2 are directly related to the construction, special events and operation of the 39,000-seat ballpark in the Victory Court area under the Project, which would not occur with the Victory Court Use Alternative. This Alternative would avoid less SU impacts than the No Project Alternative, but would eliminate more SU impacts than the Reduced Growth Alternative. No impacts would be greater than those identified with the Project.

5.5.4 Summary

In summary, the Reduced Growth Alternative is considered the environmentally superior alternative as it would avoid and/or substantially reduce SU impacts of the Project to the greatest extent compared to the Victory Court Use Alternative and still meet the basic objectives of the Project.

**TABLE 5-4
SUMMARY COMPARISON OF IMPACTS: PROJECT AND ALTERNATIVES**

NOTE: Significance levels shown in the table reflect levels of significance after mitigation or standard conditions of approval and indicate maximum impact during buildout and operation, unless otherwise specified.	Proposed Project	No Project Alternative	Reduced Growth Alternative	Victory Court Use Alternative
4.1 Aesthetics, Shadow, and Wind				
Impact AES-1: Development facilitated by the Proposed Amendments would not adversely affect scenic public vistas or scenic resources.	LS	LS	LS↓	LS
Impact AES-2: Development facilitated by the Proposed Amendments would not substantially degrade the existing visual character or quality of the site and its surroundings.	LS	LS	LS↓	LS
Impact AES-3: Development facilitated by the Proposed Amendments would facilitate the creation of new sources of light or glare which could substantially and adversely affect day or nighttime views in the area.	LS	LS↓	LS↓	LS
Impact AES-4: Development facilitated by the Proposed Amendments would not result in substantial new shadow that would shade solar collectors, passive solar heaters, public open spaces, or historic resources or otherwise result in inadequate provision of adequate light.	LS	LS↓	LS↓	LS
Impact AES-5: Development facilitated by the Proposed Amendments would not result in adverse wind conditions.	LS	LS↓	LS↓	LS
Impact AES-6: Development facilitated by the Proposed Amendments, in combination with other past, present, and reasonably foreseeable future projects within and around the Project Area, would result in a less than significant cumulative aesthetic, wind, and shadow impacts.	LS	LS	LS↓	LS
4.2 Air Quality				
Impact AIR-1: Development facilitated by the Proposed Amendments would not fundamentally conflict with the Bay Area Clean Air Plan (CAP) because the projected rate of increase in vehicle miles traveled (VMT) or vehicle trips is not greater than the projected rate of increase in population.	LS	LS↓	LS↓	LS↓
Impact AIR-2: Development facilitated by the Proposed Amendments would not fundamentally conflict with the CAP because the plan demonstrates reasonable efforts to implement control measures contained in the CAP.	LS	LS↓	LS↓	LS↓
Impact AIR-3: Development facilitated by the Proposed Amendments could include residential developments that expose occupants to substantial health risk from diesel particulate matter (DPM) from mobile and stationary sources. Although compliance with City's Standard Conditions of Approval would provide that a site specific health risk assessment (HRA) be prepared, and that would reduce exposures to DPM sources to less than significant, there is no assurance that exposure to gaseous TACs could be reduced to a less-than-significant level at every site.	SU	SU↓	SU↓	SU

Legend

LS Less than significant or negligible impact; no mitigation required

LSM Less than significant impact, after mitigation

SU Significant and unavoidable adverse impact, after mitigation or standard conditions

N No impact

↑↓ Impact is more severe or less severe than project impact, after mitigation, but with no change in impact determination; **Changes from proposed project impact determination shown in bold**

TABLE 5-4 (Continued)
SUMMARY COMPARISON OF IMPACTS: PROJECT AND ALTERNATIVES

NOTE: Significance levels shown in the table reflect levels of significance after mitigation or standard conditions of approval and indicate maximum impact during buildout and operation, unless otherwise specified.	Proposed Project	No Project Alternative	Reduced Growth Alternative	Victory Court Use Alternative
4.2 Air Quality (cont.)				
Impact AIR-4: Development facilitated by the Proposed Amendments could include residential developments that expose occupants to sources of substantial and frequent odors affecting a substantial number of people and would be guided by City policies to reduce potential odor impacts.	SU	SU↓	SU↓	SU↓
4.3 Biological Resources				
Impact BIO-1: Development facilitated by the Proposed Amendments could adversely affect, either directly or through habitat modifications, any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	LS	LS↓	LS↓	LS↓
Impact BIO-2: Development facilitated by the Proposed Amendments would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	N	N	N	N
Impact BIO-3: Development facilitated by the Proposed Amendments could have a substantial adverse effect on federally protected wetlands (as defined by Section 404 of the Clean Water Act) or state protected wetlands, through direct removal, filling, hydrological interruption, or other means.	LS	LS↓	LS↓	LS↓
Impact BIO-4: Development facilitated by the Proposed Amendments could substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	LS	LS↓	LS↓	LS↓
Impact BIO-5: Development facilitated by the Proposed Amendments would not fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan.	N	N	N	N
Impact BIO-6: Development facilitated by the Proposed could fundamentally conflict with the City of Oakland Tree Protection Ordinance (Oakland Municipal Code Chapter 12.36) by removal of protected trees under certain circumstances.	LS	LS↓	LS↓	LS↓
Impact BIO-7: Development facilitated by the Proposed Amendments could fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect biological resources.	LS	LS↓	LS↓	LS↓

Legend

LS Less than significant or negligible impact; no mitigation required

LSM Less than significant impact, after mitigation

SU Significant and unavoidable adverse impact, after mitigation or standard conditions

N No impact

↑↓ Impact is more severe or less severe than project impact, after mitigation, but with no change in impact determination; **Changes from proposed project impact determination shown in bold**

TABLE 5-4 (Continued)
SUMMARY COMPARISON OF IMPACTS: PROJECT AND ALTERNATIVES

NOTE: Significance levels shown in the table reflect levels of significance after mitigation or standard conditions of approval and indicate maximum impact during buildout and operation, unless otherwise specified.	Proposed Project	No Project Alternative	Reduced Growth Alternative	Victory Court Use Alternative
4.3 Biological Resources (cont.)				
Impact BIO-8: Construction activity and operations of development facilitated by the Proposed Amendments, in combination with past, present, existing, approved, pending and reasonably foreseeable future projects in the Project Area, would not result in impacts on special-status species, sensitive habitats, wildlife movement corridors, wetlands, and other waters of the U.S.	LS	LS↓	LS↓	LS↓
4.4 Cultural Resources				
Impact CUL-1: Development facilitated by the Proposed Amendments could result in the physical demolition, destruction, relocation, or alteration of historical resources that are listed in or may be eligible for listing in the federal, state, or local registers of historical resources.	SU	SU↓	SU↓	SU
Impact CUL-2: Development facilitated by the Proposed Amendments could result in significant impacts to both known and unknown archaeological resources.	LS	LS↓	LS↓	LS
Impact CUL-3: Development facilitated by the Proposed Amendments could directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	LS	LS↓	LS↓	LS
Impact CUL-4: Development facilitated by the Proposed Amendments could disturb human remains, including those interred outside of formal cemeteries.	LS	LS↓	LS↓	LS
Impact CUL-5: Development facilitated by the Proposed Amendments, combined with cumulative development in the Project Area and citywide, including past, present, existing, approved, pending, and reasonably foreseeable future development, would contribute considerably to a significant adverse cumulative impact to cultural resources.	SU	SU↓	SU↓	SU
4.5 Geology, Soils and Geohazards				
Impact GEO-1: Development facilitated by the Proposed Amendments could expose people or structures to seismic hazards such as ground shaking and seismic-related ground failure such as liquefaction, differential settlement, or lateral spread.	LS	LS↓	LS↓	LS
Impact GEO-2: Development facilitated by the Proposed Amendments could be subjected to geologic hazards, including expansive soils, subsidence, seismically induced settlement and differential settlement.	LS	LS↓	LS↓	LS
Impact GEO-3: Development facilitated by the Proposed Amendments, when combined with other past, present, existing, approved, pending and reasonably foreseeable development in the vicinity, would not result in significant cumulative impacts with respect to geology, soils or seismicity.	LS	LS↓	LS↓	LS

Legend

LS Less than significant or negligible impact; no mitigation required

LSM Less than significant impact, after mitigation

SU Significant and unavoidable adverse impact, after mitigation or standard conditions

N No impact

↑↓ Impact is more severe or less severe than project impact, after mitigation, but with no change in impact determination; **Changes from proposed project impact determination shown in bold**

TABLE 5-4 (Continued)
SUMMARY COMPARISON OF IMPACTS: PROJECT AND ALTERNATIVES

NOTE: Significance levels shown in the table reflect levels of significance after mitigation or standard conditions of approval and indicate maximum impact during buildout and operation, unless otherwise specified.	Proposed Project	No Project Alternative	Reduced Growth Alternative	Victory Court Use Alternative
4.6 Greenhouse Gases and Climate Change				
Impact GHG-1: Development facilitated by the Proposed Amendments would produce greenhouse gas emissions that exceed 1,100 metric tons of CO ₂ e per year, but that would not exceed 4.6 metric tons of CO ₂ e per service population annually.	LS	LS↓	LS↓	LS↓
Impact GHG-2: Development facilitated by the Proposed Amendments would not conflict with any applicable plan, policy or regulation of an appropriate regulatory agency adopted for the purpose of reducing greenhouse gas emissions.	LS	LS↓	LS↓	LS↓
4.7 Hazardous Materials				
Impact HAZ-1: Development facilitated by the Proposed Amendments would result in an increase in the routine transportation, use, and storage of hazardous chemicals.	LS	LS	LS↓	LS
Impact HAZ-2: Development facilitated by the Proposed Amendments would result in the accidental release of hazardous materials used during construction through improper handling or storage.	LS	LS	LS↓	LS
Impact HAZ-3: Development facilitated by the Proposed Amendments would result in the exposure of hazardous materials in soil and ground water.	LS	LS↓	LS↓	LS
Impact HAZ-4: Development facilitated by the Proposed Amendments would result in the exposure of hazardous building materials during building demolition.	LS	LS↓	LS↓	LS
Impact HAZ -5: Development facilitated by the Proposed Amendments would require use of hazardous materials within 0.25 mile of a school.	LS	LS↓	LS↓	LS
Impact HAZ -6: Development facilitated by the Proposed Amendments, when combined with other past, present, existing, approved, pending and reasonably foreseeable development in the vicinity, would result in cumulative hazards.	LS	LS↓	LS↓	LS
4.8 Hydrology and Water Quality				
Impact HYD-1: Development facilitated by the Proposed Amendments would alter drainage patterns and increase the volume of stormwater, level of contamination or siltation in stormwater flowing from the Project Area.	LS	LS↓	LS↓	LS↓
Impact HYD-2: Development facilitated by the Proposed Amendments could be susceptible to flooding hazards as a result of being placed in a 100-year flood zone as mapped by FEMA.	LS	LS↓	LS↓	LS↓
Impact HYD-3: Development facilitated by the Proposed Amendments could be susceptible to flooding hazards in the event of dam or reservoir failure.	LS	LS↓	LS↓	LS↓

Legend

LS Less than significant or negligible impact; no mitigation required

LSM Less than significant impact, after mitigation

SU Significant and unavoidable adverse impact, after mitigation or standard conditions

N No impact

↑↓ Impact is more severe or less severe than project impact, after mitigation, but with no change in impact determination; **Changes from proposed project impact determination shown in bold**

TABLE 5-4 (Continued)
SUMMARY COMPARISON OF IMPACTS: PROJECT AND ALTERNATIVES

NOTE: Significance levels shown in the table reflect levels of significance after mitigation or standard conditions of approval and indicate maximum impact during buildout and operation, unless otherwise specified.	Proposed Project	No Project Alternative	Reduced Growth Alternative	Victory Court Use Alternative
4.8 Hydrology and Water Quality (cont.)				
Impact HYD -4: Development facilitated by the Proposed Amendments could be susceptible to inundation in the event of sea-level rise.	LS	LS↓	LS↓	LS↓
Impact HYD-5: Development facilitated by the Proposed Amendments would not adversely affect the availability of groundwater supplies or interfere substantially with groundwater recharge.	LS	LS↓	LS↓	LS↓
Impact HYD -6: Development facilitated by the Proposed Amendments would be susceptible to mudflow, seiche, and tsunami-related hazards.	LS	LS↓	LS↓	LS↓
Impact HYD-7: Development facilitated by the Proposed Amendments, combined with past, present, existing, approved, pending, and reasonably foreseeable future projects would not result in potentially significant cumulative impacts to hydrologic resources.	LS	LS↓	LS↓	LS↓
4.9 Land Use, Plans and Policies				
Impact LU-1: Development facilitated by the Proposed Amendments would not result in the physical division of an existing community or conflict with nearby land uses.	LS	LS↓	LS↓	LS↓
Impact LU-2: Development facilitated by the Proposed Amendments would not conflict with applicable land use plans and policies adopted for the purpose of avoiding or mitigating an environmental effect.	LS	LS↓	LS	LS
Impact LU-3: Development facilitated by the Proposed Amendments would not fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan.	LS	LS↓	LS	LS
Impact LU-4: Development facilitated by the Proposed Amendments, combined with cumulative development in the defined geographic area, including past, present, existing, approved, pending, and reasonably foreseeable future development, does not reveal any significant adverse cumulative impacts in the area.	LS	LS↓	LS	LS
4.10 Noise				
Impact NOI-1: Development facilitated by the Proposed Amendments would result in substantial temporary or periodic increases in ambient noise levels in the Project Area above levels existing without the Amendment and in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	LS	LS↓	LS↓	LS↓
Impact NOI-2: Construction pile driving for the Victory Court ballpark that could be facilitated by the Proposed Amendments could increase ambient noise levels for an extended duration and adversely affect the surrounding noise environment.	SU	N	SU	N

Legend

LS Less than significant or negligible impact; no mitigation required

LSM Less than significant impact, after mitigation

SU Significant and unavoidable adverse impact, after mitigation or standard conditions

N No impact

↑↓ Impact is more severe or less severe than project impact, after mitigation, but with no change in impact determination; **Changes from proposed project impact determination shown in bold**

TABLE 5-4 (Continued)
SUMMARY COMPARISON OF IMPACTS: PROJECT AND ALTERNATIVES

NOTE: Significance levels shown in the table reflect levels of significance after mitigation or standard conditions of approval and indicate maximum impact during buildout and operation, unless otherwise specified.	Proposed Project	No Project Alternative	Reduced Growth Alternative	Victory Court Use Alternative
4.10 Noise (cont.)				
Impact NOI -3: Development facilitated by the Proposed Amendments could increase noise levels in the Project Area to levels in excess of standards established in the Oakland Noise Ordinance and Planning Code.	LS	LS↓	LS↓	LS↓
Impact NOI-4: Operational noise generated by the Victory Court ballpark that could be facilitated by the Proposed Amendments would generate special event noise levels in the Project Area to levels in excess of standards established in the Oakland Noise Ordinance and Planning Code.	SU	N	SU	N
Impact NOI -5: Traffic generated by development facilitated by the Proposed Amendments could substantially increase traffic noise levels in the Project Area.	LS	LS↓	LS↓	LS↓
Impact NOI-6: Traffic generated by development facilitated by the Proposed Amendments, in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could substantially increase traffic noise levels in the Project Area; and construction and operational noise levels in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could increase ambient noise levels.	LS	LS↓	LS↓	LS↓
Impact NOI-7: Noise generated by the Victory Court ballpark that could be facilitated by the Proposed Amendments, in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could result in a 5 dBA permanent increase in ambient noise levels in the project vicinity above levels existing without development facilitated by the Proposed Amendments; and could substantially increase construction noise and operational noise in the Project Area.	SU	LS	SU	LS
4.11 Population, Employment and Housing				
Impact POP-1: Development facilitated by the Proposed Amendments could displace existing housing and residents, but not in substantial numbers necessitating the construction of replacement housing elsewhere, in excess of that anticipated in the City's Housing Element.	LS	LS↓	LS↓	LS↓
Impact POP-2: Development facilitated by the Proposed Amendments could displace existing businesses and jobs, but not in substantial numbers necessitating construction of replacement facilities elsewhere, in excess of that anticipated in the City's General Plan.	LS	LS↓	LS↓	LS↓

Legend

LS Less than significant or negligible impact; no mitigation required

LSM Less than significant impact, after mitigation

SU Significant and unavoidable adverse impact, after mitigation or standard conditions

N No impact

↑↓ Impact is more severe or less severe than project impact, after mitigation, but with no change in impact determination; **Changes from proposed project impact determination shown in bold**

TABLE 5-4 (Continued)
SUMMARY COMPARISON OF IMPACTS: PROJECT AND ALTERNATIVES

NOTE: Significance levels shown in the table reflect levels of significance after mitigation or standard conditions of approval and indicate maximum impact during buildout and operation, unless otherwise specified.	Proposed Project	No Project Alternative	Reduced Growth Alternative	Victory Court Use Alternative
4.11 Population, Employment and Housing (cont.)				
Impact POP-3: Development facilitated by the Proposed Amendments individually and in combination with past, present, existing, approved, pending, and reasonably foreseeable future projects would not induce substantial population growth in a manner not contemplated in the General Plan, either directly by facilitating new housing or businesses, or indirectly through infrastructure improvements, such that additional infrastructure is required but the impacts of such were not previously considered or analyzed.	LS	LS↓	LS↓	LS↓
4.12 Public Services and Recreation Facilities				
Impact PSR-1: Development facilitated by the Proposed Amendments could result in an increase in calls for police protection services, but would not require new or physically altered police facilities in order to maintain acceptable performance objectives.	LS	LS↓	LS↓	LS↓
Impact PSR-2: Development facilitated by the Proposed Amendments could result in an increase in calls for fire protection and emergency medical response services, but would not require new or physically altered fire protection facilities in order to maintain acceptable performance objectives.	LS	LS↓	LS↓	LS↓
Impact PSR-3: Development facilitated by the Proposed Amendments could result in new students for local schools, but would not require new or physically altered school facilities to maintain acceptable performance objectives.	LS	LS↓	LS↓	LS↓
Impact PSR-4: Development facilitated by the Proposed Amendments could increase the use of existing neighborhood and regional parks, but not to the extent that substantial physical deterioration of the facilities would occur or be accelerated.	LS	LS↓	LS↓	LS↓
Impact PSR-5: Development facilitated by the Proposed Amendments, in combination with other past, present, existing, approved, pending, and reasonably foreseeable future projects within and around the Project Area, would result in a cumulative increase in demand for police, fire, and school services.	LS	LS↓	LS↓	LS↓
Impact PSR -6: Development facilitated by the Proposed Amendments, in combination with other past, present, existing, approved, pending, and reasonably foreseeable future projects within and around the Project Area, would result in an increased demand for recreational facilities.	LS	LS↓	LS↓	LS↓

Legend

LS Less than significant or negligible impact; no mitigation required

LSM Less than significant impact, after mitigation

SU Significant and unavoidable adverse impact, after mitigation or standard conditions

N No impact

↑↓ Impact is more severe or less severe than project impact, after mitigation, but with no change in impact determination; **Changes from proposed project impact determination shown in bold**

TABLE 5-4 (Continued)
SUMMARY COMPARISON OF IMPACTS: PROJECT AND ALTERNATIVES

NOTE: Significance levels shown in the table reflect levels of significance after mitigation or standard conditions of approval and indicate maximum impact during buildout and operation, unless otherwise specified.	Proposed Project	No Project Alternative	Reduced Growth Alternative	Victory Court Use Alternative
4.13 Transportation and Circulation				
Impact TRA-1: Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Existing Plus Project conditions.	SU	N	SU↓	SU
Impact TRA-2: Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Cumulative Year 2015 Plus Project conditions.	SU	N	SU↓	SU
Impact TRA-3: Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Cumulative Year 2035 Plus Project conditions.	SU	SU↓	SU↓	SU
Impact TRA-4: Baseball games and other special events at the Victory Court ballpark would adversely affect the surrounding transportation network.	SU	N	SU	N
Impact TRA-5: Traffic congestion caused by the traffic generated by development facilitated by the Proposed Amendments would substantially increase travel time for AC Transit buses.	LSM	LSM↓	LSM↓	LSM↓
Impact TRA-6: Development facilitated by the Proposed Amendments would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.	LS	LS↓	LS↓	LS
Impact TRA-7: Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments, potentially causing conflicts among motor vehicles, bicycles, or pedestrians.	LS	LS↓	LS↓	LS
Impact TRA-8: Development facilitated by the Proposed Amendments may result in additional automobile, bicycle, and/or pedestrian traffic at the existing at-grade railroad crossings and potentially contribute to safety issues along the railroad crossings.	SU	LS	SU↓	SU
Impact TRA-9: Development facilitated by the Proposed Amendments would generate services from emergency vehicles.	LS	LS↓	LS↓	LS
Impact TRA-10: Development facilitated by the Proposed Amendments would generate demand for alternative transportation services.	LS	LS↓	LS↓	LS
Impact TRA-11: Development facilitated by the Proposed Amendments would generate temporary increases in traffic volume and temporary effects on transportation conditions.	LS	LS↓	LS↓	LS

Legend

LS Less than significant or negligible impact; no mitigation required

LSM Less than significant impact, after mitigation

SU Significant and unavoidable adverse impact, after mitigation or standard conditions

N No impact

↑↓ Impact is more severe or less severe than project impact, after mitigation, but with no change in impact determination; **Changes from proposed project impact determination shown in bold**

TABLE 5-4 (Continued)
SUMMARY COMPARISON OF IMPACTS: PROJECT AND ALTERNATIVES

NOTE: Significance levels shown in the table reflect levels of significance after mitigation or standard conditions of approval and indicate maximum impact during buildout and operation, unless otherwise specified.	Proposed Project	No Project Alternative	Reduced Growth Alternative	Victory Court Use Alternative
4.14 Utilities and Service Systems				
Impact UTIL-1: The water demand generated by development facilitated by the Proposed Amendments would not exceed water supplies available from existing entitlements and resources.	LS	LS↓	LS↓	LS↓
Impact UTIL-2: Development facilitated by the Proposed Amendments would not exceed the wastewater treatment requirements of the San Francisco Regional Water Quality Control Board or result in a determination that new or expanded wastewater treatment facilities would be required.	LS	LS↓	LS↓	LS↓
Impact UTIL-3: Development facilitated by the Proposed Amendments would not require or result in construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	LS	LS↓	LS↓	LS↓
Impact UTIL-4: Development facilitated by the Proposed Amendments would not generate solid waste that would exceed the permitted capacity of the landfills serving the area.	LS	LS↓	LS↓	LS↓
Impact UTIL-5: Development facilitated by the Proposed Amendments would not violate applicable federal, state and local statutes and regulations relating to energy standards; nor result in a determination by the energy provider which serves or may serve the area that it does not have adequate capacity to serve projected demand in addition to the providers' existing commitments and require or result in construction of new energy facilities or expansion of existing facilities.	LS	LS↓	LS↓	LS↓
Impact UTIL-6: Development facilitated by the Proposed Amendments in combination with other past, present, existing, approved, pending, and reasonably foreseeable future projects within and around the Project Area, would result in an increased demand for utilities services.	LS	LS↓	LS↓	LS↓

Legend

LS Less than significant or negligible impact; no mitigation required

LSM Less than significant impact, after mitigation

SU Significant and unavoidable adverse impact, after mitigation or standard conditions

N No impact

↑↓ Impact is more severe or less severe than project impact, after mitigation, but with no change in impact determination; **Changes from proposed project impact determination shown in bold**

CHAPTER 6

Impact Overview and Growth Inducement

6.1 Significant, Unavoidable and Cumulative Environmental Impacts

A significant and unavoidable impact would result if a project reaches or exceeds the defined threshold of significance and no feasible mitigation measure is available to reduce the significant impact to a less-than-significant level. Development facilitated by the Proposed Amendments would result in the following significant and unavoidable (SU) impacts or cumulative impacts, as identified in Chapter 4 of this EIR.

SU Air Quality Impacts

- **Impact AIR-3:** Development facilitated by the Proposed Amendments could include residential developments that expose occupants to substantial health risk from diesel particulate matter (DPM) from mobile and stationary sources. Although compliance with City's Standard Conditions of Approval would provide that a site specific health risk assessment (HRA) be prepared, and that would reduce exposures to DPM sources to less than significant, there is no assurance that exposure to gaseous TACs could be reduced to a less-than-significant level at every site.
- **Impact AIR-4:** Development facilitated by the Proposed Amendments could include residential developments that expose occupants to sources of substantial and frequent odors affecting a substantial number of people and would be guided by City policies to reduce potential odor impacts.

SU Cultural Resources Impacts

- **Impact CUL-1:** Development facilitated by the Proposed Amendments could result in the physical demolition, destruction, relocation, or alteration of historical resources that are listed in or may be eligible for listing in the federal, state, or local registers of historical resources.
- **Impact CUL-5:** Development facilitated by the Proposed Amendments, combined with cumulative development in the Project Area and citywide, including past, present, existing, approved, pending, and reasonably foreseeable future development, would contribute considerably to a significant adverse cumulative impact to cultural resources.

SU Noise Impacts

- **Impact NOI-2:** Construction pile driving for the Victory Court ballpark that could be facilitated by the Proposed Amendments could increase ambient noise levels for an extended duration and adversely affect the surrounding noise environment.
- **Impact NOI-4:** Operational noise generated by the Victory Court ballpark that could be facilitated by the Proposed Amendments would generate special event noise levels in the Project Area to levels in excess of standards established in the Oakland Noise Ordinance and Planning Code.
- **Impact NOI-7:** Noise generated by the Victory Court ballpark that could be facilitated by the Proposed Amendments, in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could result in a 5 dBA permanent increase in ambient noise levels in the project vicinity above levels existing without development facilitated by the Proposed Amendments; and could substantially increase construction noise and operational noise in the Project Area.

SU Transportation and Circulation Impacts

- **Impact TRA-1:** Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Existing Plus Project conditions.
- **Impact TRA-2:** Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Cumulative Year 2015 Plus Project conditions.
- **Impact TRA-3:** Development facilitated by the Proposed Amendments would increase traffic volumes on area roadway segments under Cumulative Year 2035 Plus Project conditions.
- **Impact TRA-4:** Baseball games and other special events at the Victory Court ballpark would adversely affect the surrounding transportation network.
- **Impact TRA-8:** Development facilitated by the Proposed Amendments may result in additional automobile, bicycle, and/or pedestrian traffic at the existing at-grade railroad crossings and potentially contribute to safety issues along the railroad crossings.

6.2 Growth-Inducing Impacts

This section addresses the ways in which the Proposed Amendments “could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment” (Section 15126.2(d) of the CEQA Guidelines). The section summarizes topics and impacts also addressed in Section 4.11 Population, Housing, and Employment, which provides the context for evaluating growth-inducing impacts.

6.2.1 The Proposed Amendments Would Foster Growth and Revitalization in the Central District Redevelopment Project Area

The Proposed Amendments would enable continuation of projects, programs, investments, and other activities of the Redevelopment Agency that would eliminate blight remaining in the Project Area and facilitate downtown revitalization and growth. The Proposed Amendments would directly facilitate the following development in the Project Area:

- Major retail development as desired for the Valdez Triangle area of the Broadway/Valdez District. New comparison goods shopping downtown would increase shopping opportunities in Oakland and stem the leakage of retail spending to other areas.
- A new ballpark with surrounding commercial and residential development. The development would provide a viable option for retaining the A's baseball team in Oakland and would strengthen the downtown's role for entertainment and mixed-use development.
- Additional entertainment/retail development in the Uptown district.
- Additional low- and moderate-income housing to expand housing choices in the Project Area.

These developments would support Project Area growth of business activity with 4,240 additional jobs and growth of 2,090 households with 3,530 additional residents. This growth would not otherwise occur in downtown Oakland without the Proposed Amendments. The facilitation of these developments would be beneficial as they satisfy several of the goals and objectives of the Central District Redevelopment Plan and the Oakland General Plan.

Compared to growth anticipated citywide, the Proposed Amendments would contribute about four percent of the employment growth and about three percent of the population growth anticipated by the ABAG projections for 2010-2035. Without the Proposed Amendments and the redevelopment activities and funding that they would enable, future growth in Oakland is likely to be below the ABAG projections by those percentages.

6.2.2 The Proposed Amendments are Unlikely to Induce Substantial Additional Growth Outside the Project Area

No Infrastructure-Induced Growth

Typical examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and the development of new residential subdivisions or industrial parks in areas that are currently only sparsely developed or are undeveloped. In this case, the Proposed Amendments would facilitate redevelopment of already developed areas in a central, downtown/business district location well-served by existing transportation/transit systems and other infrastructure and utilities. Unlike development on vacant land in an outlying part of the

region, the development facilitated by the Proposed Amendments would occur in an already developed urban area and would not require construction or extension of new roads, utilities, and other infrastructure that might stimulate population and employment growth in previously undeveloped areas.

Limited Support for New Housing Growth Elsewhere in Oakland

The Proposed Amendments would result in affordable housing development. Under California Redevelopment Law, 15 percent of total new housing units built in the Project Area during the extension period must be affordable to households of low- or moderate-income. In addition, with the Proposed Amendments, the Agency also would be required to allocate 30 percent of gross tax increment revenues from the Project Area to affordable housing (the housing “set-aside”). However, it is likely that most of the housing set-aside during the extension period could be required to provide financial assistance for meeting the Agency’s 15 percent affordable housing production obligation in the Project Area. If some of the housing set-aside were available for other affordable housing beyond the 15 percent obligation in the Project Area, such funds could be used for additional affordable housing either inside or outside the Project Area. Thus, it is possible that some additional affordable housing could be built elsewhere in Oakland as a result of the Proposed Amendment. If so, the additional affordable housing could be built in residential areas and locations identified for housing in the City’s General Plan Land Use and Housing Elements.

Job-Induced Population Growth Likely to Be Accommodated By Anticipated Cumulative Growth

Employment growth in development facilitated by the Proposed Amendments would support the growth of households and population to provide additional workers. The housing development facilitated by the Proposed Amendments, however, would accommodate additional workers, equivalent to about 50 to 60 percent of the additional jobs. Cumulatively, city growth of housing and employed residents in Oakland is projected to exceed the growth of jobs over time (thereby improving the relationship of jobs and housing in Oakland). Thus, cumulatively, the substantial growth of housing and population already anticipated to occur throughout the city could accommodate the number of additional workers due to the Proposed Amendments as well as the number of additional workers associated with other cumulative job growth. Housing in downtown and the Project Area will represent a large share of the housing to be built in Oakland in the future, and would support the growth of business activities and jobs in the Project Area.

Growth Supported By Additional Spending Unlikely to Result in Construction of Additional New Facilities

The major retail and ballpark/mixed-use developments and the entertainment/retail development to be facilitated by the Proposed Amendments would bring visitors, patrons, and shoppers to the Project Area. Their spending would support the businesses and employment to be located in the new developments. There also could be some additional spending, such as for eating and drinking, that would support existing and potential new businesses in nearby parts of the Project Area and downtown. The additional spending is unlikely to result in the construction of new facilities because

of the large amount of retail and commercial space to be developed as a result of the Proposed Amendments, and the availability of commercial space in existing buildings downtown.

Shifts of Some Existing Commercial and Industrial Activity to Other Areas

Development in the Project Area that is facilitated by the Proposed Amendments is anticipated to require the demolition of some existing commercial and industrial buildings/facilities. The loss of existing space would result in some shifts of existing business activity to other areas of Oakland, and increased occupancy of commercial and industrial space in those areas. There are commercial corridors and industrial areas in Oakland that contain vacant and underutilized facilities and sites that would benefit from increased market interest and shifts in demand from other areas. The magnitude of shifts would not be large in the context of business activity citywide, and would not be expected to lead to construction of new facilities in most cases.

The loss of space due to the proposed development in the Valdez Triangle area, could shift auto dealership activity to the north along Broadway and/or to locations along I-880 in the vicinity of the Coliseum. It could shift auto service and other commercial activities to the west toward Telegraph Avenue, as well as to parts of downtown, North Oakland, and West Oakland. The loss of industrial and industrial/commercial space for new development in the Victory Court area, could shift business activity to other locations, such as along the San Leandro Street industrial corridor in East Oakland, in areas between I-880 and the Estuary, and in parts of West Oakland. There also could be some shifts of business activity outside of Oakland to locations along the I-880 and/or I-80 corridors.

6.2.3 From a Regional Perspective, the Proposed Amendments Would Accommodate More Growth in Downtown Oakland, Thereby Reducing Growth Pressures Elsewhere

From a regional perspective, the Proposed Amendments would affect the distribution and location of growth within the East Bay and Bay Area region. It would result in more growth in Oakland and downtown Oakland, at the center of the region, and less growth in other areas.

As a result of the Proposed Amendments, major retail shopping, entertainment/retail, and ballpark/commercial developments in the Project Area would capture activity that would otherwise locate elsewhere in the East Bay and/or Bay Area. For example, other locations for a new ballpark have included Fremont and downtown San José. Development of major retail shopping in the Project Area would increase shopping opportunities in Oakland and stem the leakage of retail spending to areas outside of Oakland in the East Bay and San Francisco. Thus, the Proposed Amendments would facilitate ballpark and associated commercial development in a central, regional location with good transportation/transit accessibility from throughout the region. It would facilitate retail development in closer proximity to Oakland consumers thereby reducing their travel distances for shopping trips.

The Proposed Amendments also would accommodate more housing and population growth in the Project Area, thereby reducing demand for housing in more outlying locations. The project would support additional housing in a central Bay Area location with strong housing demand. Higher-density housing in the Project Area attracts households with a high proportion of working adults who value good accessibility to workplaces nearby and elsewhere in the Inner East Bay and San Francisco. Over the long term, with the Proposed Amendments, more higher-density housing in downtown Oakland at the center of the region is likely to result in a larger total regional housing supply than would a more dispersed, lower-density pattern of regional development, and it would result in more housing in close proximity to public transportation and employment centers in the Central Bay Area.

6.2.4 Summary

Overall, the effects of the Proposed Amendments on growth would be largely beneficial and are not considered substantial and adverse.

6.3 Significant Irreversible Environmental Effects

An EIR must identify any significant irreversible environmental changes that could result from implementation of a development facilitated by the Proposed Amendments. These may include current or future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. CEQA dictates that irretrievable commitments of resources should be evaluated to assure that such current consumption is justified (CEQA Guidelines §15126.2(c)). The CEQA Guidelines identify three distinct categories of significant irreversible changes: (1) changes in land use that would commit future generations; (2) irreversible changes from environmental actions; and (3) consumption of non-renewable resources.

6.3.1 Changes in Land Use Which Would Commit Future Generations

The development facilitated by the Proposed Amendments would allow for the improvement of approximately 828 acres of land in the Central Business District area of Oakland. The development facilitated by the Proposed Amendments is consistent with the land use designated by the City of Oakland's General Plan. Because the development facilitated by the Proposed Amendments would occur within an urban area surrounded by similar or compatible uses, it would not commit future generations to significant changes in land use.

6.3.2 Irreversible Changes from Environmental Accidents

No significant irreversible environmental damage, such as what could occur as a result of an accidental spill or explosion of hazardous materials, is anticipated due to implementation of the development facilitated by the Proposed Amendments. Furthermore, compliance with federal, State, and local regulations, the City of Oakland's Standard Conditions of Approval, and the implementation of mitigation measures identified in Section 4.7, Hazardous Materials, would

reduce to a less-than-significant level the possibility that hazardous substances within the Project Area would cause significant environmental damage.

6.3.3 Consumption of Non-Renewable Resources

Consumption of non-renewable resources includes conversion of agricultural lands, loss of access to mining reserves, and use of non-renewable energy sources. The Project Area is located within an urban area of Oakland; no agricultural land would be converted to non-agricultural uses. The Project Area does not contain known mineral resources and does not serve as a mining reserve.

Activities facilitated by the Proposed Amendments would require the use of energy, including energy produced from non-renewable resources. However, the projects, programs, and other activities facilitated by the Proposed Amendments would incorporate energy-conserving features, as required by the Uniform Building Code and California Energy Code Title 24.

6.4 Effects Found Not To Be Significant

Meetings with representatives of the City of Oakland departments involved in the planning and review of development projects, and consultants to the City were held to determine the preliminary scope of the activities facilitated by the Proposed Amendments. In addition to those meetings, a Notice of Preparation (NOP) was circulated on October 14, 2010, and public scoping meetings were held on November 3, 2010 at the Planning Commission and November 8, 2010 at the Landmarks Preservation Advisory Board, to solicit comments from the public and city officials about the scope of this EIR. Written comments received on the NOP were considered in the preparation of the final scope for this document and in the evaluation of the activities facilitated by the Proposed Amendments. An Initial Study was not prepared for the proposed Project.

The NOP prepared for this EIR indicated there would likely be environmental effects on aesthetics, shadow and wind; air quality and greenhouse gases; biological resources; cultural and historic resources; geology, soils and seismicity; hazardous materials; hydrology, water quality and water supply; land use; noise; population and housing; public services and utilities; and transportation and circulation, among other topics. These environmental topics have been fully analyzed in this document (Chapter 4).

The following two topics from the CEQA Environmental Checklist were excluded from discussion in the EIR because it was determined during the scoping phase that there would be no impacts to these issues:

6.4.1 Agricultural Resources

As discussed in Section 4.9 (Land Use, Plans, and Policies), the Oakland General Plan Land Use Map designates various residential, institutional, and commercial land use classifications on and surrounding the Project Area. The Project Area, as with the majority of developed land in the City of Oakland, is designated by the California Department of Conservation's Farmland Mapping and Monitoring Program as Urban and Built-Up Land (Department of Conservation, 1998). Therefore,

the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use; would not conflict with existing zoning for agricultural use or a Williamson Act contract; and would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use. The activities facilitated by the Proposed Amendments would have no impact on agricultural resources.

6.4.2 Mineral Resources

According to the City's OSCAR Element of the General Plan, the development facilitated by the Proposed Amendments is located in a developed urban area that has no known existing mineral resources. The California Geological Survey (CGS) has classified lands within the San Francisco Bay Region into Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geology Board, as mandated by the Surface Mining and Reclamation Act (SMARA) of 1974 (Stinson et al., 1982). The Project Area is mapped by the California Department of Mines and Geology (CDMG) as MRZ-1, an area where adequate information indicates a low likelihood of significant mineral resources (Stinson, et al., 1982). The intent of designating significant deposits is to identify areas where mineral extraction could occur prior to development. The activities facilitated by the Proposed Amendments would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; and would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. The activities facilitated by the Proposed Amendments would have no impact on mineral resources.

6.5 References

City of Oakland, *Envision Oakland, City of Oakland General Plan, Land Use and Transportation Element (LUTE)*, as amended through March 24, 1998.

City of Oakland, *Open Space, Conservation and Recreation (OSCAR), An Element of the Oakland General Plan*, adopted June 1996.

California Department of Conservation, *Map of Prime Farmland in Alameda County*, 1998.

Stinson, M. C., M. W. Manson, J. J. Plappert, and others, *Mineral Land Classification: Aggregate Materials in the San Francisco-Monterey Bay Area, Part II, Classification of Aggregate Resource Areas South San Francisco Bay Production-Consumption Region, California Division of Mines and Geology Special Report 146*, 1982.

CHAPTER 7

Report Preparers

7.1 Lead Agency

City of Oakland
Community and Economic Development Agency
Strategic Planning Division
250 Frank H. Ogawa Plaza, Suite 3315
Oakland, California 94612

Ulla-Britt Jonsson, Planner II

City of Oakland
Community and Economic Development Agency
Redevelopment Division
250 Frank H. Ogawa Plaza, Suite 5313
Oakland, California 94612

Patrick Lane, Project Manager
Blair Miller, Urban Econ Analyst IV

7.2 EIR Consultants

Environmental Science Associates
350 Frank H. Ogawa Plaza, Suite 300
Oakland, California 94612

Project Director: Crescentia Brown, AICP
Project Manager: Reema Mahamood
Deputy Project Manager: Elizabeth Kanner

ESA Technical	Jonathan Carey, AICP LEED, <i>Aesthetics, Shadow and Wind, Public</i>
Analysts, by	<i>Services and Recreation Facilities; Utilities and Service Systems</i>
Topic:	Chris Sanchez, <i>Air Quality and Greenhouse Gases; Noise</i>
	Michelle Giolli, <i>Biological Resources</i>
	Jennifer Bowden, <i>Cultural Resources</i>
	Brad Brewster, <i>Cultural Resources</i>
	Dylan Duverge, <i>Geology, Soils and Geohazards</i>
	Kirstin Conti, <i>Hazards and Hazardous Materials; Hydrology and Water</i>
	<i>Quality</i>
	Elizabeth Kanner, <i>Land Use, Plans and Policies</i>
	Jack Hutchison, P.E., <i>Transportation and Circulation</i>
	Eric Schniewind, <i>Hydrology and Water Quality</i>

ESA Graphics,	Lisa Bautista, Word Processing
Production and	Shana DeClercq, Project Administration
Editing:	John Hart, Production
	Perry Jung, Graphics
	Anthony Padilla, Production
	Ron Teitel, Graphics

Traffic Consultant

Fehr & Peers Transportation Consultants
One Walnut Creek Center
100 Pringle Avenue, Suite 600
Walnut Creek, California 94596

Sam Tabibnia, P.E., Traffic Engineer

Economics Consultant

Hausrath Economics Group
1212 Broadway, Suite 1500
Oakland, California 94612-1817

Linda Hausrath, Principal